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## AUTHOR INDEX

Aaliti, Abdellatif, 969  
 Abdur-Rashid, Kamaluddin, 1385, 1393  
 Abel, Edward W., 253  
 Adams, Harry, 1181, 1437, 2159, 2233, 2403, 2571, 2857, 3341, 3909  
 Adams, Kerry J., 975  
 Adatia, Trushar, 643  
 Agh-Atabay, Naz M., 999  
 Aguilar, Juan A., 239  
 Ahearn, Mary-Anne, 3591  
 Ahlgrén, Markku, 1927  
 Aime, Silvio, 17  
 Akabori, Sadatoshi, 3871  
 Al-Obaidi, Ala H. R., 1591  
 Al-Shali, Saman, 2393, 3549  
 Alam, Todd M., 2659  
 Albano, Vincenzo G., 3693  
 Albertin, Gabriele, 2779  
 Albinati, Alberto, 1823  
 Alcock, Nathaniel W., 431  
 Aldridge, Simon, 853  
 Alessio, Enzo, 1021  
 Alexander, Vedhamonickom, 1867  
 Ali, Mahammad, 2645  
 Allan, Robert E., 1727, 4153  
 Allcock, Harry R., 2393, 3549  
 Allevi, Moira, 3527  
 Alvarez-Larena, Angel, 969  
 Alzuet, Gloria, 2239  
 Amador, Ulises, 3015  
 Amaudrut, Jacques, 4093  
 Andersen, Jo-Ann M., 1793  
 Anderson, Paul A., 719, 775  
 Andersson, Ingegård, 2705, 3357  
 Andrianarison, Mbolatiana M., 211  
 Andrieu, Jacques, 2903  
 Anema, Skelte G., 3853  
 Ang, How Ghee, 1573, 2773, 3131, 3843, 4083  
 Ang, Kiam-Wee, 3131  
 Ang, Siau-Gek, 2773, 3131, 3843, 4083  
 Angermair, Klaus, 3211, 3897  
 Antonini, Alessandra, 2793  
 Antoniutti, Stefano, 2779  
 Aono, Takanori, 25  
 Ara, Irene, 3201  
 Arai, Toru, 1909  
 Arakawa, Ryuichi, 1539  
 Araki, Kimie, 4303  
 Araki, Koji, 1367  
 Aramaki, Kunitsugu, 2929  
 Aratake, Yu-ichiro, 25  
 Aravamudan, Gopalaswamiengar, 2253  
 Arcos, Teresa, 4543  
 Ardizzoia, G. Attilio, 1351  
 Arena, Carmela G., 4357  
 Arima, Fumiko, 1815  
 Arimondo, Paola Barbara, 311  
 Armstrong, A. Robert, 719, 3159  
 Arpalahти, Jorma, 3101  
 Aruna, Vincent Arul Joseph, 1867  
 Arunasalam, V. Cumaran, 2435  
 Asgedom, Gebray, 93  
 Ashford, Neil F., 3959  
 Aslanoglu, Mehmet, 4115  
 Astley, Timothy, 1845  
 Atencio, Reinaldo, 2877  
 Atherton, Malcolm J., 3215  
 Atkinson, Francis L., 1959, 3491  
 Atkinson, Ian M., 3045  
 Au, Yat-Kun, 899  
 Aupers, John H., 541  
 Autret, Marie, 2793  
 Avent, Anthony G., 4633  
 Azam, Kazi A., 1731  
 Azcondo, M. Teresa, 3015  
 Bacchi, Alessia, 2699, 4239  
 Baggio, Ricardo, 2747  
 Bagnoli, Franco, 4317  
 Bailey, Neil A., 1181, 1437, 2233, 2403, 2571, 2857, 3341  
 Bailey, Philip J., 2839, 3515  
 Baillie, Philip J., 3039, 3045  
 Baker, Paul K., 3995, 4003  
 Balasubramanian, Thailampillai, 2519  
 Ballester, Loreto, 3015  
 Balter, Silke, 729  
 Bandini, Carlo, 747  
 Banerjee, Pradyot, 2645  
 Banerjee, Rupendranath, 3951  
 Banger, Kulbinder K., 2975  
 Bank, Jürgen, 1153  
 Barbaro, Pierluigi, 4337  
 Bardaji, Manuel, 2511  
 Bardwell, David A., 873, 2527  
 Barker, James, 431  
 Barker, John J., 975  
 Barker, Marten G., 1  
 Barlow, Stephen, 2989  
 Barma, Teréz, 473  
 Barnes, Charles L., 1301  
 Barnham, Kevin J., 2867  
 Barracough, Craig R., 3629  
 Barrie, Patrick J., 2417  
 Barrière, Frédéric, 3967  
 Bartlett, Philip N., 823  
 Barton, Lawrence, 3145  
 Bashirpoor, Mandana, 3865  
 Bassetti, Mauro, 3527  
 Bastida, Rufina, 1493  
 Bates, George B., 2693  
 Batsanov, Andrei S., 1947  
 Batten, Stuart R., 4249  
 Bavoso, Alfonso, 2799, 3243  
 Beattie, James K., 1481  
 Beck, Johannes, 4463  
 Beddoes, Roy L., 2935, 3629, 3893, 3917, 4035  
 Bedford, Robin B., 4633  
 Beer, Paul D., 2341, 4129  
 Begley, Michael J., 1, 1323, 1947, 2323, 4295  
 Bell, Steven E. J., 1591  
 Belli Dell'Amico, Daniela, 4317  
 Bellitto, Carlo, 3015  
 Belsky, Vitaiy K., 2123  
 Bencini, Alessandro, 2799, 3243, 3991  
 Bencini, Andrea, 2055  
 Benito, Angel, 343, 2923, 4121  
 Benvenuti, Maria Helena A., 739  
 Beringhelli, Tiziana, 1771  
 Bermejo, Manuel R., 2935  
 Bernhardt, Paul V., 145, 4319, 4325  
 Berthet, Jean-Claude, 947  
 Bertolasi, Valerio, 3105  
 Bertrand, Philippe, 1181  
 Best, Stephen P., 1481, 2945  
 Beswick, Michael A., 2183, 3515, 3793, 4033, 4153  
 Bhadbhade, Mohan, 2371  
 Bhattacharya, Anup Kumar, 3951  
 Bhattacharya, Santanu, 2645  
 Bhattacharya, Subrato, 2815  
 Bhattacharyya, Pravat, 3647  
 Bhattacharyya, Sukanta, 4617  
 Bianchi, Antonio, 239  
 Bianchini, Claudio, 801  
 Bigoli, Francesco, 3583  
 Biradha, Kumar, 3925  
 Blacker, Nicholas C., 431  
 Blackman, Christopher S., 2975  
 Blackwell, Helen E., 3491  
 Blake, Alexander J., 31, 321, 525, 853, 1419, 1885, 2089, 2095, 2165, 2394, 2979, 3575, 3705, 4077, 4379  
 Blakeman, Philip, 1475  
 Bochmann, Manfred, 255  
 Boéré, René T., 2067  
 Boghosian, Soghomon, 3405  
 Bois, Claudette, 1359  
 Boisson, Christophe, 947  
 Bonini, A., 2699  
 Bonnardel, Pierre A., 3185  
 Bonomo, Raffaele P., 3093, 4351  
 Bonosi, Francesca, 2799  
 Boorman, P. Michael, 4533  
 Bordoni, Silvia, 3693  
 Borrás, Joaquín, 2239  
 Borsari, Marco, 4201  
 Bortun, Anatoly, 2285  
 Boschi, Tristano, 553, 2793  
 Bose, Rathindra N., 3417  
 Bosque, Ramón, 3195  
 Bott, Simon G., 1979  
 Botta, Mauro, 17  
 Bould, Jonathan, 3145  
 Bourgeois, Hervé, 4041  
 Boussékou, Azzedine, 1607  
 Bowmaker, Graham A., 2381, 2449, 2459, 3121, 3897  
 Boys, Daphne, 2877  
 Bradley, Donald C., 3931  
 Braga, Dario, 631, 1875, 2165, 3925  
 Brain, Paul T., 231, 4589  
 Brandès, Stéphane, 1209  
 Brandt, Katja, 1237  
 Brasse, Claudia, 3793  
 Brauers, Georg, 3387  
 Braunstein, Pierre, 2903, 3571, 4365  
 Brechin, Euan K., 3745  
 Breeze, Steven R., 1341  
 Brewer, Cynthia T., 1249  
 Brewer, Greg A., 1249  
 Briard, Pierrette, 513  
 Bicklebank, Neil, 157  
 Bridgeman, Adam J., 2601, 4027, 4555  
 Brisdon, Alan K., 2975  
 Brito, Cláudia, 4543

Broadwood-Strong, Gillian T. L., 1039  
 Brooker, Sally, 2117, 3031  
 Brooks, Wendell V. F., 1997  
 Brown, Nathan C., 1959, 2511, 3491, 3977  
 Brown, Paul L., 3071  
 Brownridge, Scott, 1997, 2553  
 Bruce, Duncan W., 3913  
 Bruce, Michael I., 1551, 3151  
 Bruce, Peter G., 3159  
 Brücher, Ernö, 1113  
 Brunner, Henri, 1499  
 Bruno, Giuseppe, 4357  
 Buchanan, Heather, 541  
 Büchner, Riaan, 3533  
 Buckley, Robert G., 69  
 Buglyó, Peter, 87, 1779  
 Bühl, Michael, 231  
 Buhling, Armin, 2143  
 Burai, László, 1113  
 Bürger, Kai-Silke, 247  
 Burgess, John, 1385, 1393  
 Burguete, María I., 2923  
 Burns, Robert C., 2629  
 Burrows, Andrew D., 149, 3805  
 Busetto, Luigi, 3693  
 Butcher, Ray J., 2061  
 Butters, Christopher, 2299  
 Byriel, Karl A., 145  
 Bywater, Melanie J., 2979  
 Cairati, Paolo, 2739  
 Calderazzo, Fausto, 311, 4317  
 Calhorda, María José, 4543  
 Calogero, Sandro, 2475  
 Calzaferri, Gion, 3313  
 Cameron, James H., 1513  
 Cameron, T. Stanley, 383, 2553  
 Camiletti, Chiara, 3693  
 Campana, Charles F., 691  
 Campbell, Ian K., 2233  
 Campillos, Eduardo, 2533  
 Canovese, Luciano, 1921  
 Cao, Shiba, 1629  
 Capper, Glen, 1399  
 Carcelli, Mauro, 2699, 4239  
 Cardin, Christine J., 1133, 1145, 4313  
 Cardin, David J., 1133, 1145  
 Carfagna, Carla, 415, 3379  
 Cargill Thompson, Alexander M. W., 873, 879, 4257  
 Carling, Simon G., 1839  
 Carlton, Laurence, 999  
 Carlucci, Lucia, 2739  
 Carmalt, Claire J., 443, 455  
 Carmona, Daniel, 2877  
 Carmona, Ernesto, 3687  
 Carpenter, Gene B., 3977  
 Carr, Nicholas, 415, 2299, 2315  
 Carter, Lee C., 1399  
 Carter, Vinton J., 3159  
 Carugo, Oliviero, 2239  
 Caruso, James, 2659  
 Casanova, Javier, 2239  
 Casas, José S., 1973  
 Cassoux, Patrick, 2261  
 Castellano, Eduardo E., 1973  
 Castillón, Sergio, 969  
 Castineiras, Alfonso, 2935  
 Castro, Pilar, 1493  
 Catalano, Laura, 4269  
 Cavaco, Isabel, 1989  
 Cavell, Kingsley J., 2197  
 Cea-Olivares, Raymundo, 4135  
 Cecchi, Patrizio, 2475  
 Cecconi, Franco, 2821, 3991, 4337  
 Cendrowski-Guillaume, Sophie M., 1487  
 Cenini, Sergio, 1351, 3221  
 Cervera, Beatriz, 1359  
 Chadwell, Steven J., 1105, 3163  
 Chakravarty, Akhil R., 3289  
 Chakravorty, Animesh, 99  
 Chaloner, Penny A., 1039, 4633  
 Champness, Neil R., 1261  
 Chan, Chui-Ling, 4019  
 Chan, Eddie Y. Y., 1229  
 Chan, Suzanna, 2293  
 Chang, C. Allen, 2347  
 Chang, Yuanda, 2047  
 Chao, Yiqun, 4439  
 Chardon-Noblat, Sylvie, 2581  
 Charles, Chantal, 4365  
 Charlton, Michael, 2835  
 Chatterjee, Debabrata, 4389  
 Chatterton, Nicholas P., 4055  
 Chaubon, Marie-Anne, 893  
 Chaudhuri, Phalguni, 247  
 Chauvin, Yves, 3571  
 Che, Chi-Ming, 405, 1411, 1645, 1769, 1829, 2827, 3155, 3699  
 Chelucci, Giorgio, 1295  
 Chen, Chang Neng, 177  
 Chen, Hong Li, 1545  
 Chen, Hui Lan, 4425  
 Chen, Jiabi, 1443  
 Chen, Jian, 955, 1443, 1767, 2735  
 Chen, Jiesheng, 3303  
 Chen, Jyh-Horung, 3787  
 Chen, Liao-rong, 2617  
 Chen, Liqin, 1341  
 Chen, Qin, 1093, 2047, 2585  
 Chen, Xiaohua, 2653  
 Chen, Xiao-Ming, 1767, 2181, 2443, 3465  
 Chen, Xuetai, 2159  
 Chen, Yu, 2309  
 Chen, Yuewu, 691  
 Chen, Zhong Ning, 177  
 Cheng, Jinpei, 3889  
 Cheng, Kin-Fai, 405  
 Cheng, Ming-Chuan, 405  
 Cheng, Wing-Chi, 405  
 Chernega, Alexander N., 921  
 Chery, Madeline, 3917  
 Cheung, Kung-Kai, 1125, 1411, 1645, 2335, 2889, 3283, 3411, 3699, 4019  
 Cheung, Tsz-Chun, 1645  
 Chiarparrin, Elisabetta, 3139  
 Chim, Joyce L. C., 3153  
 Chisholm, Malcolm H., 1781  
 Chivers, Tristram, 1185  
 Choi, Nick, 3039, 3045  
 Choi, Sam Wing-Kin, 3411, 4227  
 Chollet, Hervé, 1209  
 Chotalia, Rohit, 4207  
 Chou, Lung-Fang, 3787  
 Chow, Ernest K. F., 1229  
 Christofides, Aristides, 2511  
 Christophorou, Konstantinos, 3737  
 Chung, Kun H., 75, 3363  
 Church, Simon R., 227  
 Churchill, David G., 1463  
 Churchill, Melvyn R., 1463  
 Ciani, Gianfranco, 2739  
 Cinelli, Maria Agostina, 1295, 4217  
 Cini, Renzo, 111  
 Ciniawsky, Slava A., 2945  
 Ciomartan, Dan A., 3639  
 Cisárová, Ivana, 2685  
 Clark, George R., 4265  
 Clark, Robin J. H., 3639  
 Clarke, Catherine A., 1513  
 Clarke, Lionel P., 4147  
 Claver, Carmen, 969  
 Clegg, William, 363, 681, 1531, 4115, 4155, 4197, 4513  
 Clemmer, David E., 567  
 Clérac, Rodolphe, 4093  
 Coe, Benjamin J., 3917  
 Coffey, Thérèse A., 183  
 Cohen, Haim, 2055  
 Colacio, Enrique, 861  
 Colbran, Stephen B., 2185  
 Colchester, John E., 3937  
 Coldicott, Richard S., 3819  
 Cole, Eleanor, 2693  
 Cole-Hamilton, David J., 1161, 1793  
 Coles, Simon J., 203, 1105, 1801, 1839, 3163, 3995, 4003  
 Collinson, Simon R., 1181  
 Collison, David, 329  
 Coluccia, Salvatore, 765  
 Coluzza, Carlo, 1721  
 Comba, Peter, 533  
 Connolly, Neil G., 1959, 2511, 3491, 3977  
 Connor, Joseph A., 2835  
 Consiglio, Giambattista, 1021  
 Constable, Edwin C., 2389, 2423, 4207  
 Conte, Enrico, 3093, 4351  
 Convery, Maire A., 1133, 1145  
 Copley, Royston C. B., 479, 491  
 Corbett, John D., 575  
 Corrigan, John F., 729  
 Costa, Judite, 4543  
 Costa, Mirco, 4239  
 Costes, Jean-Pierre, 861  
 Cowie, Jill, 231  
 Craig, Peter J., 153  
 Crespo, Olga, 4583  
 Crimp, Stephen J., 1051  
 Crispini, Alessandra, 1069  
 Crociani, Bruno, 1921  
 Crofts, Rhona D., 2979  
 Cromhout, Natalie L., 4055  
 Cronin, Leroy, 401, 3337  
 Cross, Ronald J., 1087, 1637, 4149, 4449  
 Crossley, John G., 631, 3491, 3977  
 Crossman, Martin C., 509  
 Croucher, Paul D., 3031  
 Crystall, Ben, 3283  
 Cuesta, Rafael, 861  
 Cuevas, Jacqueline, 2877  
 Cui, Yuxin, 553  
 Cupertino, Domenico C., 2835  
 Currie, Alan W. S., 1793  
 D'Alfonso, Giuseppe, 1771  
 Dagnall, Stephen P., 867  
 Dahal, Sanjay, 3429  
 Dai, Wenning, 2309  
 Daier, Verónica, 1607  
 Dale, Michael J., 771  
 Dalley, N. Kent, 2351  
 Daly, Leo T., 1063, 4045  
 Dance, Ian G., 709, 2381, 3755, 4109  
 Daniele, Pier G., 3269  
 Daniels, Jörg, 1653  
 Dann, Sandra E., 4471  
 Danopoulos, Andreas A., 271, 1309, 2995, 3771, 4063  
 Dasgupta, Tara P., 1385, 1393, 2637  
 Dauter, Zbigniew, 1133  
 Davidson, Jack L., 999, 4011  
 Davies, Christopher G., 227

Davies, David L., 1399  
 Davies, John E., 4055, 4147  
 Day, Peter, 1839  
 Day, Victor W., 691  
 de Blas, Andrés, 1493  
 De Guidi, Guido, 4351  
 de Lange, Wim G. J., 3561  
 de los Ríos, Isaac, 377  
 de Silva, Eban N., 3121,  
     3897  
 DeCian, André, 3571  
 Declercq, Jean-Paul, 2023  
 Deeming, Antony J., 1731  
 Deeth, Robert J., 415, 2299  
 Deguchi, Shuhei, 1967  
 Del Favero, Patricia, 1481  
 del Mar Conejo, María, 3687  
 Delgado, Esther, 3201  
 Delgado, Rita, 4543  
 Della Pergola, Roberto, 747  
 Delpech, Fabien, 2261  
 DelPizzo, Lisa, 353  
 Demartin, Francesco, 747,  
     3221, 3705  
 Denat, Franck, 1209  
 Dendrinou-Samara,  
     Catherine, 3737  
 Deng, Daoli, 955  
 Dent, Andrew J., 2787  
 Dent, Geoffrey, 791  
 Dent, Simon W., 2341  
 Deplano, Paola, 3583  
 Deronzier, Alain, 2503, 2581  
 Derrick, Sean, 2067  
 Deschenaux, Robert, 2533  
 Desiraju, Gautam R., 3925  
 Desmet, Mieke, 4431  
 Devenish, Robert W., 673  
 Devereux, Michael M., 1133,  
     1145  
 Deveson, Anne C., 3173  
 Devillanova, Francesco A.,  
     3705  
 Devillers, Michel, 2023  
 Dewa, Shaliza Z., 4633  
 Dewey, Michael J., 4055  
 Dhillon, Ramesh, 1379  
 Dhont, Karin I., 1753, 3163  
 Di Vaira, Massimo, 1173,  
     2679  
 Diamond, Gary M., 921  
 Diana, Eliano, 747  
 Dietrich, Stefan, 1983  
 Dikarev, Evgeny V., 147  
 Dilshad, Rahima, 1731  
 Dilworth, Jonathan R., 1093,  
     1941, 2585  
 Diversi, Pietro, 2727  
 Dixon, Denis T., 3959  
 Djuran, Milos I., 2417  
 Do, Youngkyu, 3363  
 Dodsworth, Elaine S., 4369  
 Domasevitch, Konstantin V.,  
     2351

Dominguez-Vera, Jose M.,  
     861  
 Dorn, Hendrik, 4143  
 Dossett, Stephen J., 415  
 Dossi, Carlo, 765  
 Douglas, Graeme, 999  
 Downs, Anthony J., 853  
 Doye, Jonathan P. K., 611  
 Drago, Russell S., 105  
 Drake, John E., 391  
 Drake, Simon R., 2435  
 Dreihäupl, Karl-Heinz, 4193  
 Dreos, Renata, 4269  
 Drew, Michael G. B., 1063,  
     3021, 4045, 4129, 4543  
 Drommi, Dario, 4357  
 Drost, Christian, 3595  
 Drummond, jun., Segal E.,  
     3071  
 Duan, Chun-Ying, 3485  
 Duarte, Maria Teresa, 1989,  
     4543  
 Duda, Anna M., 1905  
 Dullaghan, Conor A., 4493  
 Dunand-Sauthier, Marie-  
     Noelle Collomb, 2503  
 Duncalf, David J., 2843  
 Duncan, Patrick C. M., 4245  
 Durkin, Julie, 3277  
 Durrant, Marcus C., 4003  
 Dutta, Somnath, 99  
 Dutta, Sujit K., 2371  
 Dyba, Marcin, 1119, 3265  
 Dyer, Alan, 775  
 Dyson, Paul J., 771, 2395  
 Edmondson, Michael, 791  
 Edwards, Andrew J., 133,  
     343, 3837  
 Edwards, Karen J., 4171  
 Edwards, Peter G., 1105,  
     1801, 3163  
 Edwards, Peter P., 1, 719,  
     775  
 Effendy, 2449, 2459  
 Eguchi, Shingo, 1761  
 Eguchi, Taro, 625  
 Eisen, Moris S., 2541  
 El Fallah, M. Salah, 1013  
 El Manouni, Driss, 1119  
 Elder, Susan M., 2423  
 Elding, Lars I., 1471  
 Elduque, Anabel, 2155  
 Elgersma, Jaap W., 2143  
 Ellerby, Miles C., 211  
 Elsegood, Mark R. J., 363,  
     681, 1531, 4115, 4197, 4513  
 Elsome, Amanda M., 69  
 Engelhardt, Lutz M., 3053,  
     3297  
 Engelking, Holger, 2409  
 Englert, Ulli, 311, 2077, 4317  
 Ephritikhine, Michel, 947,  
     1487  
 Epple, Matthias, 11

Errington, R. John, 681  
 Errington, William, 431  
 Erxleben, Andrea, 1823,  
     2329  
 Escarpa Gaede, Petra, 3833,  
     4621, 4629  
 Escudié, Jean, 893  
 Escuer, Albert, 1013, 1835  
 Espinosa-Pérez, Georgina,  
     4135  
 Estevan, Francisco, 1045  
 Evans, John, 555, 2951, 2963  
 Evans, jun., Howard T.,  
     2537  
 Eyring, Edward M., 1629,  
     2127  
 Fabbri, Luigi, 3045  
 Fabretti, Antonio C., 1753,  
     3163  
 Fabrizi de Biani, Fabrizia,  
     4337  
 Fallahpour, Reza-Ali, 2389  
 Fallaize, Andrew, 133  
 Fallis, Ian A., 31, 525, 4379  
 Faraone, Felice, 4357  
 Farrar, David H., 4369  
 Farrugia, Louis J., 443, 455,  
     631, 1087, 1637, 4149,  
     4449  
 Faulmann, Christophe, 2261  
 Faus, Juan, 1359  
 Fawcett, John, 1399, 1897,  
     3215  
 Fedin, Vladimir P., 4089  
 Feher, Frank J., 3387  
 Fehlhammer, Wolf Peter,  
     3231  
 Félix, Vitor, 4543  
 Fenske, Dieter, 729, 1133  
 Fenton, David E., 1181, 1493,  
     2223, 2857, 3421  
 Ferguson, George, 3323  
 Feringa, Ben L., 3561  
 Fernández, Eduardo J., 3603  
 Fernández, Ramón, 2123  
 Fernández, Vicente, 3011  
 Ferraro, Fabrizio, 2699  
 Ferretti, Valeria, 3105  
 Ferrini, Luca, 239  
 Field, John S., 1031, 3533,  
     4171  
 Field, Leslie D., 2011  
 Fielder, Scott S., 4369  
 Findeis, Bernd, 125  
 Findeisen, Matthias, 3437  
 Fiore, Michele, 4597  
 Fischer, Jean, 3571  
 Fisher, Keith J., 709, 4109  
 Fitzgerald, Jeffrey P., 1249  
 Fleming, James S., 1801  
 Fletcher, James G., 2497  
 Flörke, Ulrich, 2371  
 Font-Bardia, Mercé, 1013,  
     1835

Fontaine, Xavier L. R., 1741,  
     3813  
 Fontán, Soledad Garcia,  
     2779  
 Forder, Robin J., 1261  
 Foreman, Mark R. St. J.,  
     3653  
 Forniés, Juan, 2587, 3201  
 Forster, Glyn D., 183  
 Fourmigué, Marc, 4093  
 Frampton, Christopher S.,  
     1261  
 Francis, Gareth M., 665  
 Frank, Walter, 2541  
 Frankland, Andrew D., 4151  
 Frascaroli, María I., 1607  
 Fraústo da Silva, João J. R.,  
     2763  
 Fricker, Simon P., 69  
 Fries, Arno, 4517  
 Froelich, Nikolaus, 1941  
 Fu, De Gang, 2735, 3799  
 Fu, Youjun, 2309  
 Fujihara, Takashi, 305  
 Fujimoto, Junichi, 45  
 Fujioka, Mamoru, 1967  
 Fujita, Junnosuke, 3779  
 Fujiwara, Manabu, 3727  
 Fukuda, Yutaka, 3251  
 Fusek, Jiří, 1741  
 Fusi, Vieri, 239  
 Fuyuhiro, Akira, 305,  
     2851  
 Gade, Lutz H., 125, 597  
 Gallagher, John F., 3323  
 Galsworthy, Jane R., 2917  
 Galvez, Natividad, 861  
 Gamasa, M. Pilar, 2547  
 Gameson, Ian, 775  
 Ganadu, María Luisa, 1905  
 Gangopadhyay, Sumana,  
     2645  
 Gao, Qiuming, 3303  
 Garau, Alessandra, 3705  
 Garavaglia, Maria Grazia,  
     1771  
 Garbassi, Fabio, 3139  
 Garcés, Yolanda, 2155  
 García, José R., 2285  
 García-España, Enrique, 239,  
     2923  
 García-Monteagudo, Juan  
     C., 2935  
 García-Tasende, María S.,  
     1973  
 García-Vázquez, José A.,  
     2047  
 Gardiner, Michael G., 829,  
     3053, 4163  
 Garland, María Teresa, 2747  
 Garlaschelli, Luigi, 747  
 Garner, C. David, 2101  
 Gay, Sally R., 2403, 3341  
 Geanangel, Russell A., 4183

Gehrhus, Barbara, 1475  
 Gelling, Andrew, 203, 3065, 3371  
 Gemel, Christian, 4071  
 Genge, Anthony R. J., 4099, 4471  
 Gennaro, Armando, 1613  
 George, Adrian V., 2011  
 Gerasimchuk, Nikolay N., 2351  
 Gerloch, Malcolm, 4027  
 Germain, Gabriel, 969  
 Geue, Rodney J., 4417  
 Gevert, Olaf, 2275  
 Ghatak, Indira, 61  
 Ghilardi, Carlo A., 2821, 3991, 4337  
 Ghosh, Prasanta, 3293  
 Ghosh, Soma, 4233  
 Gibson, Alexander M., 1267, 2979, 4099  
 Gibson, Vernon C., 4197, 4513  
 Giganti, Melchiore, 3105  
 Gilby, Liam M., 3575  
 Gill, Louise J., 1437, 2403, 3341, 3909  
 Gillard, Robert D., 1989  
 Gimeno, José, 2547  
 Gimeno, M. Concepción, 3603, 4583  
 Giordano, Giuseppe, 253  
 Girasolo, Maria Assunta, 1195  
 Glowiak, Tadeusz, 439, 3469  
 Godfrey, Stephen M., 157, 3309  
 Goeminne, André M., 1753, 3163  
 Goldby, Ian M., 665  
 Golub, Gilad, 2055  
 Gómez, Rafael, 939  
 Gong, Meng-Lian, 1767  
 González, Gabriel, 1045  
 Gonzalez-Cueva, Mercedes, 2547  
 Goodgame, David M. L., 4245  
 Goodger, Anna, 847  
 Gopinath, Chinnakonda S., 1255  
 Gordon, Keith C., 1591  
 Gornitzka, Heinz, 1727  
 Gorrell, Ian B., 211  
 Gould, Edwin S., 3417  
 Gould, Robert O., 4379  
 Goulding, Terence, 673  
 Grädl, Ulrich, 335  
 Grandjean, Daniel, 513  
 Granijo, Juan, 4369  
 Grant, Craig M., 321, 2394, 4077  
 Graydon, Andrew R., 4129  
 Green, Jennifer C., 1475  
 Green, Malcolm L. H., 921, 939, 2467  
 Green, Michael J., 415, 1161, 1793, 2299, 3379, 3387, 4517  
 Green, Simon M., 2299  
 Greener, Bryan, 401, 3337  
 Gregory, Duncan H., 1  
 Grepioni, Fabrizia, 631, 1875, 2165, 3925  
 Gresley, N. Melanie, 2039  
 Griffith, William P., 2039  
 Grigsby, Warren J., 4613  
 Grime, Richard W., 3893  
 Grönberg, Karin L. C., 3667  
 Gros, Claude, 1209  
 Guedes da Silva, M. Fátima C., 2763  
 Guerra, Matteo, 1173  
 Guerrero, José A., 239  
 Guillard, Roger, 1209  
 Guo, Zijian, 2867  
 Gupta, Vishnu D., 2815  
 Gusev, Oleg V., 2571  
 Gutberlet, Heinz, 2135  
 Gutiérrez, Angel, 3015  
 Guymer, Naomi K., 4099  
 Guyon, Fabrice, 4093  
 Guzmán-Miralles, Carmen, 3985  
 Haas, Alois, 4463  
 Haasnoot, Jaap G., 4275  
 Habata, Yoichi, 3871  
 Hage, Ronald, 353  
 Haggitt, Jane L., 939  
 Hague, David N., 867  
 Hahn, F. Ekkehardt, 955  
 Haiduc, Ionel, 391  
 Haines, Raymond J., 1031, 3533, 4171  
 Halcrow, Malcolm A., 3793, 4055  
 Hall, David A., 3539  
 Hamada, Taisuke, 1909  
 Hambley, Trevor W., 533, 4283  
 Hamilton, Trevor, 2403, 3341  
 Hamor, Thomas A., 1545, 2253  
 Hampden-Smith, Mark J., 2659  
 Hamza, Mohamed S. A., 3721  
 Hanabira, Shigeyuki, 45  
 Hankin, Danielle M., 1309, 4063  
 Hannon, Michael J., 2423  
 Hanot, Vincent P., 4275  
 Harada, Akihiko, 2579  
 Harding, Charles J., 3021, 3173, 3227  
 Harding, Ian S., 3931  
 Harding, Margaret M., 549  
 Harding, Rachel A., 117, 625  
 Hargreaves, Louise, 69  
 Hariprasad, Gali, 3429  
 Harris, Robin K., 2381, 3349  
 Harris, Sharman D., 4003  
 Harrison, Karl N., 1069  
 Harrowfield, Jack, 3165  
 Harrowfield, Jack M., 1687  
 Hart, Suzanne L., 2843  
 Harvey, Heather B., 1513  
 Harvey, Peta J., 2449, 2459  
 Hasegawa, Hiroshi, 195  
 Hastings, Jeremy J., 2705, 2843, 3357, 4189  
 Hata, Yasuo, 195  
 Hattersley, Andrew D., 603  
 Haukka, Matti, 1927, 2581  
 Havelock, Joanne, 681  
 Haynes, Anthony, 2187  
 Hazell, Rita, 3437  
 He, Qing-Yu, 2233, 2857  
 Healy, Peter C., 2449, 2459, 3121, 3897  
 Heard, Peter J., 3543  
 Heath, Graham A., 2067, 4485  
 Heath, Sarah L., 1601, 3173  
 Heaton, Brian T., 61, 625, 673, 1701  
 Hecker, Richard, 2197  
 Heggie, William, 61  
 Heinicke, Joachim, 1475  
 Hellwell, Madeleine, 2101, 4233  
 Henderson, Richard A., 2755, 3397, 3667  
 Henderson, William, 1897, 2381, 4109  
 Hennig, Lothar, 3437  
 Henriksen, Lars, 2491  
 Henriques, Rui T., 1989  
 Henshaw, John S., 867  
 Heppeler, Axel, 31  
 Herberich, Gerhard E., 4317  
 Herman, Gerrit G., 1753, 3163  
 Hermann, Petr, 2685  
 Hernández, Elisa, 3201  
 Hernández-Ortega, Simón, 4135  
 Herrendorf, Wolfgang, 4463  
 Hetherington, Josephine C., 4325  
 Heuduk, Harald, 4463  
 Heuer, William B., 3507  
 Heyes, Stephen J., 2989  
 Hibble, Simon J., 2245  
 Hibbs, David E., 3277, 3995  
 Hick, Larry A., 4417  
 Hidai, Masanobu, 3251, 4307  
 Higgs, Timothy C., 2101  
 Hilfenzhaus, Peter, 533  
 Hill, Angela M., 467  
 Hill, Geoffrey S., 1809

Hill, Michael, 835, 847, 1857  
 Hill, M. N. Stuart, 1455  
 Himeno, Sadayuki, 2083  
 Hiraki, Katsuma, 291  
 Hirao, Takashi, 2929  
 Hitchcock, Peter B., 211, 739, 1941, 2755, 3277, 3595, 4633  
 Hitchman, Michael A., 1845, 4245  
 Hix, Gary B., 2285  
 Ho, Chun-Wah, 405  
 Ho, Paul Kwok-Keung, 1411, 1829  
 Hoare, Jason L., 2197  
 Hock, Joachim, 4257  
 Hockless, David C. R., 2011  
 Hoffman, David M., 1979  
 Hogarth, Graeme, 183, 1077  
 Hogg, John K., 3387  
 Holder, Alvin A., 2637  
 Hollmann, Jens, 1629  
 Holloway, John H., 3215  
 Holub, Josef, 1741, 3323  
 Holz, Birgit, 4011  
 Homann, Beverley D., 4171  
 Hong, Eunkee, 3363  
 Hong, Mao-Chun, 2911  
 Hope, Eric G., 509, 3215  
 Hope, Hákon, 3917  
 Hor, T. S. Andy, 2207, 4023, 4315  
 Hori, Toshitaka, 2083  
 Horrocks, Benjamin R., 4115  
 Horsburgh, Lockhart, 2527  
 Horvath, Michael J., 1669, 1679  
 Hoshino-Miyajima, Naomi, 1761  
 Hoskins, Bernard F., 2227  
 Hoster, Ludger, 4409  
 Houlton, Andrew, 4115  
 Housecroft, Catherine E., 603, 2917  
 Howard, James A., 653  
 Howard, Mark J., 2187  
 Howarth, Oliver W., 2705, 3021, 3357, 4189  
 Howell, James A. S., 3959  
 Howell, Roberta C., 961  
 Howie, R. Alan, 541  
 Hu, Hongwen, 2309  
 Hu, Jin, 1941  
 Huang, Qun, 3883  
 Huang, Xiao-Chun, 3465  
 Huang, Xiao-Ying, 2443, 2617  
 Huang, Z.-X., 2623  
 Huberstey, Peter, 1947, 2323, 4295  
 Huch, Volker, 161, 2485  
 Hughes, Andrew K., 4639  
 Hughes, David L., 2755, 4003

Hui, Bernard Kwok-Man, 2177  
 Hui, Janesse Wing-Sze, 2887  
 Humphrey, David G., 2945  
 Hursthouse, Michael B., 61, 203, 253, 271, 1105, 1309, 1731, 1801, 1839, 2435, 2995, 3163, 3277, 3771, 3995, 4003, 4063  
 Hussain, Itasham, 775  
 Hussain, Zafar I., 3629, 3893  
 Hutson, Anthony J., 1093, 2585  
 Ichikawa, Tomohide, 3077  
 Ienco, Andrea, 2821  
 Im, Sang-Choul, 2219, 4287  
 Imhof, Roman, 3313  
 Imhof, Wolfgang, 1429  
 Impellizzeri, Giuseppe, 3093  
 Ingham, Scott L., 3521  
 Ingrosso, Giovanni, 2727  
 Innocenti, Paolo, 2821  
 Innorta, Giuseppe, 2727  
 Inokuchi, Ko-ji, 1909  
 Isaac, Christian J., 4115  
 Isaia, Francesco, 3705  
 Ishii, Youichi, 3251, 4307  
 Ishikawa, Eri, 1619  
 Isobe, Kiyoshi, 3779  
 Isde, Abdurisak Ahmed, 1613  
 Ito, Sayo, 2579, 4037, 4479  
 Ito, Tasuku, 4031  
 Itoh, Hiroki, 2579  
 Jackson, Graham E., 1373, 4605  
 Jacob, Chacko, 61, 1701  
 Jacobs, Jürgen, 383  
 Jaimez, Enrique, 2285  
 Jakab, Sándor, 1113  
 Jalilehvand, Farideh, 3251  
 James, Siân C., 4159  
 Jameson, Geoffrey B., 2537  
 Janas, Zofia, 2755, 3469  
 Janoušek, Zbyněk, 3813  
 Jaouen, Gérard, 3611  
 Jarrold, Martin F., 567  
 Jayaweera, Pradeep M., 1591  
 Jeffery, John C., 873, 879, 2527, 4249  
 Jelinek, Tomáš, 1741, 1775  
 Jezowska-Bojczuk,  
     Małgorzata, 1119, 3265  
 Ji, Feng, 3799  
 Ji, Qin, 2127  
 Jia, Zhi-Shen, 363  
 Jiang, Lijuan, 2223  
 Jiménez Tenorio, Manuel,  
     377, 1305, 1935  
 Johnson, Brian F. G., 597, 755, 771, 1419, 1567, 2165, 2395, 3515, 3521, 3825, 3833, 3837, 4621, 4629  
 Jones, Brian E., 3121, 3897  
 Jones, Cameron, 829, 3053, 3277  
 Jones, Christopher J., 501, 4401  
 Jones, Eleanor, 1915  
 Jones, Joanne, 3277  
 Jones, Lathe A., 4325  
 Jones, Peter G., 2713, 3603, 4583  
 Jordan, Peter A., 1601  
 Jørgensen, Per Lauge, 1215  
 Joulié, Laurent F., 2527  
 Julien-Cailhol, Nathalie,  
     2111  
 Julve, Miguel, 1359  
 Junk, Peter C., 3053, 3297  
 Kabir, Shariff E., 1731  
 Kadish, Karl M., 2793  
 Kafarski, Paweł, 3455  
 Kahwa, Ishenkumba A., 961  
 Kaizaki, Sumio, 305, 2851,  
     3779  
 Kaltsoyannis, Nikolas, 1583  
 Kamer, Paul C. J., 2143  
 Kaminskaia, Natalia V.,  
     3677  
 Kanda, Takahiro, 79  
 Kane-Maguire, Leon A. P.,  
     3747  
 Kang, Bei Sheng, 177, 2617,  
     2911  
 Kang, Shin-Geol, 2809  
 Karaçar, Atilla, 3215  
 Kärcher, Jörg, 1727  
 Kase, Yu-ichi, 1909  
 Kashiwabara, Kazuo, 3779  
 Kataky, Ritu, 2693  
 Kato, Shinzi, 79  
 Katti, Kattesh V., 1301, 4459  
 Kaur, Pervinder, 1775, 4155  
 Kaur, Rupinder, 461, 2719  
 Kawahara, Yasuyuki, 79  
 Kawano, Hiroyuki, 291  
 Keefe, Anthony D., 3931  
 Keene, F. Richard, 1845  
 Kelly, Paul F., 53, 4029  
 Kelly, Robert J., 2117  
 Kemmitt, Raymond D. W.,  
     1897  
 Kennard, Colin H. L., 145  
 Kennedy, John D., 1741,  
     1775, 3145, 3323, 3813,  
     3819, 4155  
 Kerschner, Judy, 353  
 Kessissoglou, Dimitris P.,  
     3737  
 Khan, Abdullah, 541  
 Khan, Kishore Kumar, 1059  
 Khatoon, Khodeja, 1731  
 Khoury, Richard G., 3937  
 Kida, Makiko, 305  
 Kijima, Tsuyoshi, 1245  
 Kilburn, Jeremy D., 823  
 Kim, Jeong, 3591  
 Kim, Jinkwon, 2809  
 Kim, Seong-Jin, 2809  
 Kindermann, Markus, 1475  
 Kinoshita, Yuji, 291  
 Kinoshita-Kawashima,  
     Junko, 291  
 Kintzinger, Jean-Pierre, 4041  
 Király, Róbert, 1113, 3727  
 Kirchner, Karl, 4071  
 Kiss, Erzsebet, 1119  
 Kiss, Tamas, 87, 1119, 1779  
 Kitchen, Simon J., 1181  
 Kite, Kenneth, 3543  
 Kivikoski, Jussi, 93  
 Klapötke, Thomas M., 2985,  
     3237  
 Klemperer, Walter G., 691  
 Klinga, Martti, 219  
 Knox, Selby A. R., 975  
 Kobayashi, Kimiko, 45  
 Kobayashi, Teruyuki, 2391,  
     2579  
 Koek, Jean H., 353  
 Koh, Lip Lin, 1573, 4083  
 Kohata, Susumu, 1761  
 Kohzuma, Takamitsu, 4287  
 Kokusen, Hisao, 195  
 Kolehmainen, Erkki, 93  
 Kolnaar, Jeroen, 4275  
 Kooijman, Huub, 4275  
 Korber, Nikolaus, 1653  
 Kostić, Nenad M., 2653,  
     3677  
 Kou, Xiaolan, 2351  
 Koutsantonis, George A.,  
     829  
 Kováří, Endre, 3087  
 Kowalewski, Jozef, 1597  
 Kozlowski, Henryk, 1119,  
     1905, 3265  
 Krämer, Roland, 3087  
 Krebs, Bernt, 2409, 3731  
 Kresinski, Roman A., 501  
 Krishnakumar, Ramanathan,  
     2253  
 Kruger, Gert J., 4431  
 Kruger, Paul E., 1223  
 Kubiač, Maria, 1905  
 Kubica, Zbigniew, 3265  
 Kubow, Stephen A., 1463  
 Kuipers, Laurens, 665  
 Kulshreshtha, Shailendra K.,  
     461, 1203  
 Kundu, Shubnath, 3951  
 Kunz, Rainer, 3231  
 Künzel, Antje, 913  
 Kurashina, Mamoru, 2929  
 Kurisaki, Tsutomu, 3727  
 Kuroda-Sowa, Takayoshi,  
     1525, 2031, 2179  
 Kurzak, Barbara, 3455  
 Kushi, Yoshihiko, 2851  
 Kwak, Chee-Hun, 2809  
 Kyritsis, Panayotis, 4287  
 la Cour, Agneta, 3437  
 La Monica, Girolamo, 1351  
 Laban, Ian, 2381  
 Laguna, Antonio, 3603, 4583  
 Laguna, Mariano, 3603  
 Lahoz, Fernando J., 2877  
 Lahuerta, Pascual, 1045  
 Lake, Charles H., 1463  
 Lakshminarayanan, M., 1333  
 Lalinde, Elena, 2587, 3201  
 Lamata, M. Pilar, 2877  
 Lambrecht, Richard H., 3747  
 Lampeka, Yaroslav D., 2017  
 Lance, Monique, 947  
 Landgrafe, Claudia, 989  
 Langridge-Smith, Patrick R.  
     R., 771  
 Lantermann, Frank, 589  
 Lappert, Michael F., 1475,  
     1941, 3595, 4151  
 Laschi, Franco, 4337  
 Lastra, Elena, 2547  
 Laurent, Jean-Pierre, 861  
 Lawrence, Geoffrey A., 2629  
 Lawrence, Royston G., 501  
 Lawrence, Stacey M., 4163  
 Lázár, István, 1113  
 Lazell, Michael, 1449  
 Le Floc'h, Christine, 2755  
 Le Grel, Philippe, 3231  
 Le Mest, Yves, 3967  
 Le Narvor, Nathalie, 823  
 Lee, Fu Chin, 829  
 Lee, Hung-Kay, 2889  
 Lee, Kenneth Ka Hong,  
     1707, 3911  
 Lee, Sung-Kil, 1367  
 Lee, Wai-Kit, 2335, 2889,  
     3283  
 Lees, Anthea, 2787  
 Leese, Troy A., 1531  
 Leigh, G. Jeffery, 3539  
 Leising, Randolph A., 1463  
 Lejczak, Barbara, 3455  
 Lelj, Francesco, 2799, 3243  
 Leong, Anthony J., 3591  
 Lepentsiotis, Vasilios, 2135  
 Leporati, Enrico, 2699  
 Leroux, Yves, 1119  
 Leskelä, Markku, 219, 4345  
 Less, Robert J., 4055  
 Leung, Pak-Hing, 4443  
 Leung, Wa-Hung, 1229, 3153  
 Leung, Wing-Por, 2889  
 Levason, William, 467, 3713,  
     4471  
 Levelut, Anne-Marie, 2533  
 Lever, A. B. P., 4369  
 Lewis, Jack, 597, 755, 1567,  
     3515, 3825, 4033, 4509  
 Lewis, Jason S., 1093, 2585  
 Lewis, Richard J., 2787  
 Lewis, Zoë G., 231  
 Li, Guangming, 4315

Li, Qi, 2309  
 Li, Rongsheng, 3303  
 Li, Shougui, 3303  
 Li, Sihai, 4315  
 Li, Song-Lin, 3475  
 Li, Yiwei, 3323  
 Liard, Davina J., 879  
 Licoccia, Silvia, 553  
 Lienke, Achim, 2835  
 Lii, Kwang-Hwa, 815, 819  
 Lin, Zhang, 177  
 Lincoln, Stephen F., 1379  
 Linder, Peter W., 4605  
 Lindoy, Leonard F., 3039,  
     3045, 3591  
 Lindsell, W. Edward, 4011  
 Lippens, Werner, 1753, 3163  
 Lippert, Bernhard, 1823,  
     2329  
 Lippolis, Vito, 3705  
 Litster, Stephen A., 2315  
 Liu, Bo, 3889  
 Liu, Feng-Quan, 913  
 Liu, Huang, 4023  
 Liu, Qiu Tian, 177, 2911  
 Liyanage, Sudantha S., 1801  
 Llinares, José M., 239  
 Lloret, Francesc, 1359  
 Lo Schiavo, Sandra, 885  
 Lo Sterzo, Claudio, 3527  
 Lobbia, Giancarlo Gioia,  
     2475  
 Lockhart, Joyce C., 1455,  
     1531  
 Loeber, Cyrille, 513  
 Loh, Soh-Kheang, 4443  
 Long, De-liang, 2617  
 Long, Georgina V., 549  
 Longato, Bruno, 299  
 Longo, Tatiana, 3221  
 Longoni, Giuliano, 625  
 López, Concepción, 3195  
 López-de-Luzuriaga, José  
     M., 4511  
 Lorenzi, Rossella, 2727  
 Lough, Alan, 1669, 1679  
 Louro, Maria S., 2047  
 Lovell, Timothy, 4485  
 Low, Pauline M. N., 2207  
 Low, Paul J., 1551  
 Lu, Qin, 3021  
 Lu, Shi-Jie, 2911  
 Lucas, Jeremy B., 1379  
 Lucherini, Antonio, 2727  
 Luis, Santiago V., 239, 2923  
 Lukeš, Ivan, 2685  
 Lümen, Regine, 227  
 Luo, Bao-sheng, 2617  
 Luo, Lai Bin, 4425  
 Luo, Qinhui, 553  
 Luo, Yu-Ji, 2181  
 Luque, Antonio, 3985  
 Lynch, Mark J., 4283  
 Ma, Zhe Sheng, 2735  
 Mabbs, Frank E., 329, 3227,  
     4077  
 Maccarrone, Giuseppe, 3449,  
     4351  
 MacDonald, Ian A. S., 2227  
 MacDougall, Joanna K.,  
     1161  
 Macgregor, Stuart A., 2067,  
     4485  
 Machida, Masato, 1245  
 Macías, Alejandro, 1493  
 Macías, Ramón, 3323  
 MacInnes, Eric J. L., 3227  
 Mack, Jürgen, 69  
 Mackay, Kenneth M., 3853  
 Maeda, Yutaka, 139  
 Maekawa, Masahiko, 1525,  
     2031, 2179  
 Mahieu, Nathalie, 4563  
 Mahon, Mary F., 415, 835,  
     847, 1857, 2173, 2299,  
     3379, 4517  
 Maichle-Mössmer, Cäcilia,  
     311  
 Maihack, Volker, 589  
 Maikawa, Takashi, 1539  
 Maitlis, Peter M., 2187, 2571  
 Maiya, Bhaskar G., 3429  
 Mak, Thomas C. W., 177,  
     2207, 2309, 2827, 3475,  
     3485, 4315, 4425  
 Malfant, Isabelle, 2261  
 Malik, K. M. Abdul, 253,  
     1731, 1839, 2435, 3277  
 Mallela, Siva P., 4183  
 Malone, John F., 1591  
 Manassero, Mario, 1295,  
     4217  
 Mandal, Sisir Kumar, 2019  
 Mandal, Subrata, 3417,  
 Mani, Fabrizio, 1173, 2679  
 Manikandan, Palanichamy,  
     371  
 Mann, Brian E., 2159  
 Manohar, Hattikudur, 1333  
 Manoharan, Periakaruppan  
     T., 371, 1255  
 Mansilla, Noelia, 3201  
 Marchetti, Fabio, 2475, 4317  
 Marchi, Andrea, 2779, 3105  
 Marcolli, Claudia, 3313  
 Markopoulos, John, 1701  
 Markopoulou, Olga, 1701  
 Marrs, Debbie J., 3021  
 Marsh, Paul J., 2361  
 Marshall, Edward L., 4197  
 Martell, Arthur E., 167  
 Martin, Antonio, 3977  
 Martin, Avelino, 2423  
 Martín, Marta, 2275  
 Martin, Caroline M., 2165,  
     2395  
 Martinez, Manuel, 1045,  
     2665  
 Martínez-Máñez, Ramón,  
     343, 2923, 4121  
 Martino, Débora, 1607  
 Martra, Gianmario, 765  
 Marvelli, Lorenza, 2779,  
     3105  
 Masciocchi, Norberto, 1351,  
     2739  
 Mason, Susan, 2989  
 Matczak-Jon, Ewa, 3455  
 Matesanz, Ana I., 3011  
 Mathonière, Corine, 1839  
 Mathur, Pradeep, 2173  
 Mathur, Sanjay, 2485  
 Matias, Pedro M., 1989  
 Matilainen, Leena, 219  
 Matsubayashi, Gen-etsu,  
     1539  
 Matsuda, Yoshihisa, 25  
 Matsui, Masakazu, 195  
 Matsumoto, Keiji, 3335  
 Matsumoto, Naohide, 25,  
     1761  
 Matsushima, Hideaki, 4037,  
     4479  
 Matsuzaka, Hiroyuki, 4307  
 Matt, Dominique, 513, 4041  
 Matthews, Craig J., 1531  
 Matthews, Owen A., 3591  
 Matthews, Ray W., 3421  
 May, Leopold, 1249  
 Mazid, Muhammed A., 2417  
 McAuliffe, Charles A., 157,  
     2935, 3309  
 McCamley, Andrew, 2843  
 McCleverty, Jon A., 873,  
     4257, 4401  
 McCullough, Kevin J., 1513  
 McDonald, Lachlan J., 3639  
 McFarlane, William, 363,  
     4287  
 McGarvey, John J., 1591  
 McGinley, John, 835, 847  
 McGrady, John E., 4485  
 McGrath, Thomas D., 4517  
 McInnes, Eric J. L., 329,  
     4035, 4077  
 McInnes, Jacqueline M.,  
     3379  
 McIntyre, Garry, 3237  
 McKee, Vickie, 3021, 3227  
 McKenzie, Christine J., 2227  
 McNamara, John, 2985  
 McPartlin, Mary, 125, 597,  
     2417, 2835, 3039, 3045,  
     3421, 3515, 4621  
 McWhinnie, Sean L. W.,  
     4401  
 McWhinnie, William R.,  
     1545  
 Meehan, George V., 3591  
 Meehan, Margaret M., 3995  
 Meehan, Paul R., 4045  
 Meli, Andrea, 801  
 Menabue, Ledi, 4201  
 Menon, Saija C., 1203  
 Menzer, Stephan, 4245  
 Mercier, Sophie, 3571  
 Mercuri, Maria Laura, 3583  
 Mereiter, Kurt, 4071  
 Mestroni, Giovanni, 1021,  
     3139  
 Meyerstein, Dan, 2055  
 Mezza, Gianni, 2739  
 Micera, Giovanni, 87, 1779  
 Midollini, Stefano, 2821,  
     3991, 4337  
 Miki, Kunio, 79  
 Mikola, Marjaana, 3101  
 Milani, Barbara, 1021, 3139  
 Mile, Brynmor, 653  
 Miller, John R., 1093, 2585  
 Miller, Stewart A. S., 2435  
 Milne, Paul E. Y., 4077  
 Minghetti, Giovanni, 1295,  
     4217  
 Mingos, D. Michael P., 149,  
     479, 491, 561, 2435, 3805,  
     4313  
 Minhas, Shehla, 703  
 Minniti, Domenico, 253  
 Mitchell, Lindsey A., 2839  
 Mitra, Samaresh, 1059  
 Mitsopoulos, Christiana A.,  
     4563  
 Mitzel, Norbert W., 2089,  
     2095  
 Miyagi, Kei, 625  
 Miyasaka, Hitoshi, 1761  
 Mizutani, Hiroki, 1909  
 Mocerino, Mauro, 1687  
 Mohanta, Sasankasekhar,  
     4233  
 Mok, K. F., 4023, 4443  
 Mole, Laura, 2315  
 Möller, Frank, 125  
 Molloy, Kieran C., 835, 847,  
     1857  
 Monari, Magda, 3693  
 Mondal, Madhu Sudan,  
     1059  
 Mondal, Sujit, 99  
 Monks, Gary L., 61  
 Monti, Donato, 3527  
 Moock, Klaus H., 2067  
 Moon, Christopher H., 75,  
     3363  
 Moore, Geoffrey R., 1601  
 Moore, Madeleine H., 3337  
 Morel, Pierre, 3611  
 Moreno, M. Teresa, 3201  
 Moret, Massimo, 1351  
 Moreton, Anthony D., 867  
 Morewood, Catherine A.,  
     4509  
 Morgan, Grace G., 3021  
 Morishige, Kunimitsu, 4303  
 Morozova, Larissa N., 2571

Morris, Michael J., 1437, 2403, 3341, 3909  
 Morrison, Carole A., 4589  
 Motevalli, Majid, 1449, 2491, 3931, 4563  
 Moubaraki, Boujema, 363, 1223  
 Mounier, Pierre A., 227  
 Mountford, Philip, 921, 1323  
 Mousley, David P., 1455  
 Moutet, Jean-Claude, 2503  
 Mucci, Adele, 299  
 Muir, Kenneth W., 999  
 Mukherjee, Monika, 4233  
 Munakata, Megumu, 1525, 2031, 2179  
 Munkley, Carl G., 1915  
 Muñoz-Hernández, Miguel-Angel, 4135  
 Munro, Lindsey J., 611  
 Murai, Toshiaki, 79  
 Murphy, Brian P., 3421  
 Murphy, Eamonn F., 1983  
 Murray, Keith S., 363, 1223  
 Mustyakimov, Marat Yu., 147  
 Muthiah, P. Thomas, 2519  
 Nag, Kamalaksha, 2371, 4233  
 Nagao, Hirotaka, 1405  
 Nähring, Jens, 625, 1701  
 Nair, Balachandran Unni, 2019  
 Nakagawa, Sohei, 1525  
 Nakajima, Hiroshi, 1405  
 Nakamura, Akira, 3859  
 Nakamura, Nobuhumi, 1967  
 Nakamura, Nobuo, 625  
 Nakani, Bandile S., 1373  
 Nakano, Motohiro, 1539  
 Nakashima, Satoru, 139  
 Nakayama, Hirokazu, 625  
 Nanda, Kausik K., 2371, 4233  
 Nardi, Nicoletta, 2679  
 Nardin, Giorgio, 3449, 4269  
 Nasreldin, Mohamed, 363  
 Nation, Caroline B. M., 4517  
 Nation, David A., 3001  
 Naud, Frédéric, 2903  
 Naumov, Dmitry Yu., 3349  
 Nazarenko, Alexander Y., 2017  
 Needham, Michael I., 153  
 Nelson, Jane, 3021, 3227  
 Németh, Sándor, 473  
 Nessa, Lutfun, 1731  
 Nethaji, Munirathinam, 3179  
 Neuburger, Markus, 4207  
 Newman, Paul D., 1087, 1637, 4149, 4449  
 Ng, Sek Yeo, 4083  
 Ngo, Dennis C., 2393, 3549  
 Nicholson, Brian K., 3853  
 Nicolò, Francesco, 4357  
 Nielson, Alastair J., 4265  
 Nierlich, Martine, 947  
 Nilsson, Tomas, 1597  
 Nishibayashi, Yoshiaki, 4307  
 Nishida, Yuzo, 2391, 2579, 4037, 4479  
 Nishihara, Hiroshi, 2929  
 Nishio, Masayuki, 4307  
 Nishitani, Chiaki, 3335  
 Nivorozhkin, Alexander L., 1215  
 Nivorozhkin, Leonid E., 1215  
 Nixon, John F., 739, 3277  
 Nkrumah, Steve, 2143  
 Noble, Darren R., 3065  
 Nochomovitz, Yigal D., 3503  
 Nolan, Annette L., 2629  
 Noltmeyer, Mathias, 913, 1983, 3609, 4143  
 Nordlander, Ebbe, 755, 1567, 3825  
 Norman, Nicholas C., 443, 455, 4159  
 Norman, Tim, 1077  
 Nöth, Heinrich, 2815  
 Nozaki, Takeshi, 1761  
 Nozaki, Tsuyoshi, 2851  
 Nuber, Bernd, 1499  
 Nuber, Bernhard, 1499, 1659, 4409  
 O'Brien, Paul, 2491  
 O'Connell, Donnacha, 3323  
 O'Hare, Dermot, 2989  
 O'Leary, Shane R., 2571  
 Odlyha, Marianne, 3639  
 Oeschey, Ralf, 1499  
 Ogino, Tetsuhiro, 4307  
 Oglive, Kay E., 3397  
 Oh, Se-Woung, 2381  
 Ohba, Shigeru, 2579  
 Ohtaka, Kawori, 283  
 Ohya, Toshie, 1519  
 Okamoto, Yoshihiko, 1967  
 Okawa, Hisashi, 25, 1761  
 Okeya, Seichi, 3335  
 Oksman, Pentti, 3101  
 Okuno, Takashi, 4037, 4479  
 Olbrich, Michael, 161  
 Olivier, Pierre, 4431  
 Olmos, Elena, 3603  
 Olsen, Carl Erik, 3437  
 Orechio, Santino, 4597  
 Orlandini, Annabella, 2821, 3991, 4337  
 Oro, Luis A., 2155, 2877  
 Orpen, A. Guy, 631, 975, 1069, 1959, 2315, 3387, 3491, 3977, 4159  
 Orrell, Keith G., 203, 253, 3065, 3371  
 Osborne, Anthony G., 203, 253, 3065, 3371  
 Ostacoli, Giorgio, 3269  
 Ostah, Naaman, 153  
 Otsuki, Joe, 1367  
 Ou, Zhongping, 2793  
 Owen, Steven M., 1567  
 Pack, Maria J., 7  
 Padilla, Jaime, 377  
 Page, Philip R., 61  
 Pain, Helen M., 253  
 Pakkanen, Tapani A., 625, 1927, 2581  
 Pal, Chandan Kumar, 3293  
 Pal, Samudranil, 3293  
 Palaniandavar, Mallayan, 1333, 2061, 2519, 2609  
 Palmer, Donald A., 3071  
 Palmer, Richard E., 665  
 Palopoli, Claudia, 1607  
 Pampaloni, Guido, 311  
 Pandian, Ramasamy P., 1255  
 Pankowski, Marek, 3611  
 Paolesse, Roberto, 553  
 Paoletti, Piero, 2055  
 Papatheodorou, George N., 3405  
 Pappalardo, Giuseppe, 3093  
 Parish, R. V., 69, 3185  
 Parisini, Emilio, 1983, 4143  
 Parker, David, 17, 2693, 3613  
 Parkin, Bernardeta C., 2039  
 Parr, Jonathan, 1509  
 Parry, Glenn, 3277  
 Parsons, Simon, 31, 321, 525, 853, 2089, 2095, 2394, 2839, 3575, 3745, 3833, 3837, 4077, 4379, 4589, 4629  
 Parvez, Masood, 2393, 3549, 4533  
 Pasqualetti, Nicola, 4317  
 Passmore, Jack, 383, 1997, 2553  
 Patalinghug, Wyona, 7  
 Patel, Rajan P., 461, 1203, 2719  
 Patterson, Jennifer C., 3323  
 Paver, Michael A., 1727  
 Payà, Jordi, 343  
 Peachey, Brendan J., 1687  
 Peacock, Robert D., 1087, 1637, 4149, 4449  
 Pearsall, Mary-Anne, 4621  
 Pearson, Wayne H., 3507  
 Peat, Karen L., 4639  
 Pelagatti, Paolo, 4239  
 Pelizzi, Corrado, 2699, 4239  
 Pelizzetti, Giancarlo, 2699, 4239  
 Pellerito, Lorenzo, 1195  
 Pellinghelli, Maria Angela, 2763, 3583  
 Peng, Shie-Ming, 405, 1229, 1411, 1645, 1769, 1829, 3155  
 Perec, Mireille, 2747  
 Perera, Sarath D., 3111  
 Perez, Willie J., 1463  
 Pérez-Lourido, Paulo A., 2047  
 Peris, Eduardo, 1045  
 Perpiñán, M. Felisa, 3015  
 Peschel, Stefanie, 589  
 Pessoa, João Costa, 1989  
 Pétillon, François Y., 3967  
 Pettersson, Lage, 2705, 3357  
 Phillips, David, 3283  
 Phillips, Evan D., 1915  
 Phillips, Paul R., 431  
 Pickup, David M., 2245  
 Piernaar, Jacobus J., 4393  
 Pierre, Jean-Louis, 4331  
 Pietrzyński, Grzegorz, 3265  
 Pietsch, Jörg, 3571  
 Pillinger, Martyn, 2951, 2963  
 Pinella, Joan F., 969  
 Pinillos, M. Teresa, 2155  
 Pinkas, Jiri, 3609  
 Piraino, Pasquale, 885  
 Pitarque, Mari-Angel, 2665  
 Pizzano, Antonio, 3687  
 Poder-Guillou, Sylvie, 3967  
 Polamo, Mika, 4345  
 Politis, Steve, 1379  
 Polizio, Francesca, 553  
 Pombeiro, Armando J. L., 2763  
 Ponomareva, Vera V., 2351  
 Popovkin, Boris A., 147  
 Powell, Annie K., 1601, 3173  
 Powell, Harold R., 3039  
 Powell, John, 1669, 1679  
 Powell, Nigel A., 467  
 Power, Michael B., 1133  
 Power, Philip P., 4613  
 Pratt, John M., 3721  
 Prenesti, Enrico, 3269  
 Prestopino, Fabio, 3693  
 Price, Clayton, 4115  
 Prikhod'ko, Alexander I., 2017  
 Pringle, Paul G., 1069  
 Prinsloo, Frans F., 2135, 4393  
 Pritchard, Robin G., 157, 2935, 3185, 3309  
 Psaro, Rinaldo, 765  
 Psomas, George, 3737  
 Puddephatt, Richard J., 1809  
 Puerta, M. Carmen, 377, 1305, 1935  
 Pulham, Colin R., 853  
 Purches, Graham R., 2011  
 Purrello, Roberto, 3093  
 Pursiainen, Jouhi, 625  
 Pyne, Stephen G., 3747  
 Qian, Changtao, 955

Qiu, Shilun, 3303  
 Qü, Jing-Ping, 4307  
 Quayle, Michael J., 4159  
 Quirk, Jeffrey J., 3713  
 Rabiet, Frédéric, 1209  
 Ragaini, Fabio, 3221  
 Rahman, Md. Mukhlesur,  
     1731  
 Raithby, Paul R., 133, 343,  
     755, 1567, 1727, 2183, 2423,  
     3515, 3521, 3793, 3825,  
     4033, 4147, 4153, 4509  
 Rajan, Ramalingam, 2019  
 Rajaram, Rama, 2019  
 Ralph, Stephen F., 4417  
 Ramasami, Tirumalachari,  
     2019  
 Ramello, Stefano, 4317  
 Ramírez de Arellano, M.  
     Carmen, 2713, 3515, 4033,  
     4509  
 Ramirez, José Antonio, 239,  
     2923  
 Ranaivonjatovo, Henri, 893  
 Randaccio, Lucio, 1021,  
     3449, 4269  
 Randall, Edward W., 4563  
 Rangarajan, Sri Prakash,  
     1979  
 Rankin, David W. H., 2089,  
     2095, 4589  
 Rao, Chebrolu P., 93  
 Raptopoulou, Catherine P.,  
     3737  
 Raston, Colin L., 829, 3053,  
     3297, 4163  
 Rath, Nigam P., 3145  
 Rath, Sankar Prasad, 99  
 Raubenheimer, Helgard G.,  
     4431  
 Rawson, Jeremy M., 3575,  
     4077  
 Reddy, V. Sreenivasa, 1301,  
     4459  
 Redhouse, Alan D., 2315  
 Redshaw, Carl, 4197, 4513  
 Reed, David, 335, 2165, 3575  
 Reed, John W., 3417  
 Reedijk, Jan, 4275  
 Rees, Leigh H., 4249  
 Rehder, Dieter, 2111, 3865  
 Reibenspies, Joseph H., 167  
 Reid, Gillian, 1261, 1267,  
     2979, 3713, 4099, 4471  
 Reiss, Guido J., 2541  
 Rendina, Louis M., 1809  
 Rennie, Moira-Ann, 133,  
     1727  
 Renouard, Corinne, 1875  
 Rey, Manuel, 2935  
 Rheingold, Arnold L., 603,  
     1249, 2659, 2917, 3131  
 Rheinwald, Gerd, 1875  
 Rial, Rita, 1493  
 Ricciardi, Giampaolo, 2799,  
     3243  
 Richard, Dominique, 783  
 Richards, Raymond L., 2755,  
     4003  
 Richens, David T., 533, 703  
 Rickard, Clifton E. F., 4265  
 Rieger, Anne L., 1959, 3491,  
     3503, 3977  
 Rieger, Philip H., 1959, 3491,  
     3503, 3977  
 Rizzarelli, Enrico, 3093,  
     3449, 4351  
 Rizzotto, Marcela, 1607  
 Robbins, Michael H., 105  
 Robert, Toussaint D., 4275  
 Roberts, Andrew, 3629, 4035  
 Roberts, Yvonne V., 1885  
 Robertson, Neil, 823  
 Robson, Richard, 2227  
 Rockcliffe, David A., 167  
 Rodger, Caroline, 791  
 Rodríguez, Adolfo, 1493  
 Rodríguez, Julio, 2285  
 Rodriguez-Blas, Teresa, 1493  
 Roesky, Herbert W., 913,  
     1983, 3609, 4143  
 Rohovec, Jan, 2685  
 Román, Pascual, 3985  
 Romano, Vincenzo, 4597  
 Romeo, Raffaello, 1471  
 Romero, Jaime, 2047  
 Roper, Brian J., 3503  
 Rosa, Angela, 2799, 3243  
 Rosair, Georgina M., 1959  
 Rose, Eric, 2111  
 Rosenberg, Edward, 1731  
 Rosi, Marzio, 3449  
 Rösler, Roland, 391  
 Ross, Andrew T., 1509  
 Ross, Steven A., 31, 525,  
     4379  
 Rossi, Roberto, 2779, 3105  
 Rotondo, Enrico, 253  
 Rowe, Kathryn E., 3913  
 Roxburgh, Fiona M., 3031  
 Rudolf, Peter A., 1513  
 Rufińska, Anna, 1659  
 Ruggirello, Giuseppe, 4597  
 Ruiz, Aurora, 969  
 Ruiz, Nuria, 969  
 Ruiz, Rafael, 1359  
 Ruiz-Valero, Caridad, 3015  
 Rumble, Simon J., 3379  
 Rumsey, Jacqueline M.,  
     2951  
 Rusanov, Edward B., 2017  
 Russell, Christopher A.,  
     1727, 3793  
 Russell, David R., 1399,  
     1897, 3215  
 Russell, Stephen W., 353  
 Ryabov, Alexander D., 1472  
 Rzeszotarska, Barbara, 3265  
 Sabatini, Antonio, 3583  
 Sadler, Peter J., 2417, 2867  
 Saint, Gavin, 227  
 Saint-Aman, Eric, 4331  
 Sakai, Hiroshi, 139  
 Sakaki, Shigeyoshi, 1909  
 Sakoh, Katsuhiko, 1245  
 Sakurai, Tosio, 45  
 Sala, Luis F., 1607  
 Saladini, Monica, 4201  
 Sales, Joaquim, 3195  
 Salter, Ian D., 643  
 Samadi-Maybodi,  
     Abdolraouf, 3349  
 Sánchez, Agustín, 1973  
 Sánchez, Luis J., 3687  
 Sangeetha, Nimma Rajaiah,  
     3293  
 Sanna, Daniele, 87, 1779  
 Sansoni, Mirella, 4217  
 Santini, Carlo, 2475  
 Sanz, José Luis, 1359  
 Sapunov, Valentin N., 4071  
 Sargeon, Alan M., 4417  
 Satgé, Jacques, 893  
 Sathyaranayana, Dixit N.,  
     3179  
 Sato, Mitsuo, 1519  
 Satyanarayana, Chilukuri V.  
     V., 2173  
 Saunders, Graham C., 509,  
     3215  
 Saussine, Lucien, 3571  
 Sawada, Kiyoshi, 3077  
 Sawers, Leslie-James, 3159  
 Sawka-Dobrowolska,  
     Wanda, 3455  
 Saysell, David M., 363, 2623  
 Schatze, Gabriele, 383,  
     2553  
 Scheer, Corinne, 4331  
 Schenetti, Luisa, 299  
 Schlager, Oliver, 1659  
 Schmid, Günter, 589, 1721  
 Schmid, Roland, 4071  
 Schmidbaur, Hubert, 3121,  
     3897, 4193, 4511  
 Schmidt, Hans-Georg, 913,  
     3609, 4143  
 Schmidt, Hauke, 3865  
 Schmidt, Martin U., 2077  
 Schmülling, Michael, 1472  
 Schollhammer, Philippe,  
     3967  
 Schriven, Melbourne J., 1997  
 Schröck, Robert, 4193  
 Schröder, Martin, 31, 525,  
     1885, 2979, 3705, 4379  
 Schubart, Martin, 125  
 Schubert, Ulrich, 3343  
 Schulz, Axel, 2985, 3237  
 Schwan, Frank, 4183  
 Scowen, Ian J., 125, 597,  
     2417, 2835, 3421  
 Scudder, Marcia L., 2381,  
     3755  
 Seaborg, Glenn T., 3899  
 Sekar, Perumal, 2173  
 Semnani, Abolfazl, 2215  
 Senge, Mathias O., 3937  
 Senior, Andrew M., 631  
 Sereda, Sergei V., 383  
 Seshasayee, Maha, 2253  
 Seth, Neena, 2815  
 Sgamellotti, Antonio, 3449  
 Shafi, Kurikka V. P. M., 3179  
 Shah, Syed A. A., 1449, 4143  
 Shamsipur, Mojtaba, 2215  
 Sharpe, Philip C., 145  
 Shaw, Bernard L., 3111  
 Sheffield, Joanne M., 3309  
 Sheil, Margaret M., 4417  
 Sheldrick, William S., 989,  
     1237  
 Shelimov, Konstantin B., 567  
 Shephard, Douglas S., 3837  
 Shevelkov, Andrei V., 147  
 Shi, Ji-Cheng, 2911  
 Shi, Ni Cheng, 2735  
 Shi, Shu, 2617  
 Shi, Yanlong, 1629, 2127  
 Shibata, Akira, 4031  
 Shields, Gregory P., 4147  
 Shihua, Wang, 161  
 Shoukry, Mohamed, 2673  
 Siasios, George, 2269  
 Sieker, Anke, 1419  
 Siemeling, Ulrich, 4513  
 Signorella, Sandra, 1607  
 Šík, Vladimir, 203, 253, 643,  
     3065, 3371  
 Sillman, Philip D., 653  
 Silver, Jack, 1145, 2361, 3195  
 Silvestru, Cristian, 391  
 Simándi, László I., 473  
 Simon, Charlotte K. S., 1449  
 Simonsen, Ole, 3437  
 Simpson, Michael C., 1161,  
     1793  
 Simpson, Nigel J., 4011  
 Singh, Harkesh B., 461, 1203,  
     2719  
 Singh, Karanbir, 1545  
 Sironi, Angelo, 2739  
 Siu, Anna F. H., 3747  
 Skakle, Janet M. S., 2497  
 Skelton, Brian W., 1481,  
     1551, 1687, 2197, 2449,  
     2459, 3151, 3297  
 Skylaris, Chris-Kriton, 1701  
 Slade, Robert C. T., 2285  
 Sladek, Alexander, 4193,  
     4511  
 Slaski, Marcin, 775  
 Slawin, Alexandra M. Z., 53,  
     1283, 1509, 3647, 3653,  
     3659, 4029, 4567, 4575  
 Smart, Bruce A., 2095

Smelka, Leszek, 3265  
 Smith, Anthony K., 117,  
   625, 1701  
 Smith, Diane R., 4207  
 Smith, J. David, 211  
 Smith, Kevin M., 3937  
 Smith, Martin B., 1283, 3647,  
   3659, 4567, 4575  
 Smith, Susan E., 1  
 Smith, W. Ewan, 791  
 Snaith, Ronald, 3793  
 Sobolev, Alexander N., 1481  
 Sobota, Piotr, 439, 2755,  
   3469  
 Sohrin, Yoshiki, 195  
 Sokolov, Maxim N., 4089  
 Sokolow, Maxim, 913  
 Solan, Gregory A., 321, 2394,  
   3575  
 Solans, Xavier, 1013, 1835,  
   3195  
 Somasundaram, Indira, 1333  
 Somerville, Richard G., 61  
 Sommazzi, Anna, 3139  
 Sordelli, Laura, 765  
 Sordo, José, 1973  
 Soriano, Conxa, 239  
 Soriano-Rama, Antonio, 53  
 Soto, Juan, 343, 2923, 4121  
 Sousa, Antonio, 2047, 2935  
 Souza, Pilar, 3011  
 Sóvágó, Imre, 3265  
 Spalding, Trevor R., 3323  
 Sparks, Robert A., 691  
 Spek, Anthony L., 353, 3561,  
   4275  
 Spence, Kirk V. N., 961  
 Spencer, Gavin M., 541  
 Spencer, John L., 2315  
 Spiccia, Leone, 1051  
 Sreedhara, Alavattam, 93  
 Srivastava, Dileep K., 2815  
 Stalke, Dietmar, 1727  
 Stanghellini, Pier Luigi, 747  
 Stanley, David R., 211  
 Stedman, Geoffrey, 1915  
 Steiner, Alexander, 133,  
   1727, 2183, 3793, 4153  
 Steinert, Paul, 1153  
 Stephens, Ashley K. W.,  
   1379  
 Stewart, Mark W., 1031, 4171  
 Stewart, Philip J., 1323  
 Štibr, Bohumil, 1741, 1775,  
   3813  
 Stirling, Diane, 1087, 1637,  
   4149, 4449  
 Stocco, Gian Carlo, 1195  
 Stoccoro, Sergio, 1295, 4217  
 Stockheim, Claudia, 4409  
 Stoeckli-Evans, Helen, 1875  
 Stojak, Grace H., 153  
 Stopponi, Piero, 1173, 2679  
 Storrier, Gregory D., 2185  
 Strähle, Joachim, 311  
 Stranger, Robert, 4485  
 Stratemeier, Horst, 4245  
 Straub, Thomas, 2541  
 Stroud, Jo, 1947, 2323, 4295  
 Sudha, Chellamma, 3289  
 Suenaga, Yusaku, 1525,  
   2031, 2179  
 Sullivan, Alice C., 1449  
 Sun, Hongzhe, 2417  
 Sun, Jie, 955, 2309  
 Sun, Min, 1545  
 Sun, Shouheng, 4493  
 Sun, Xiaoping, 1997  
 Sundermeyer, Jorg, 4171  
 Sunley, Glenn J., 2187  
 Süss-Fink, Georg, 1875  
 Suzuki, Masamichi, 283  
 Suzuki, Miyuki, 2579  
 Suzuki, Shinnichiro, 1967  
 Suzuki, Takayoshi, 3779  
 Swallow, Daniel, 1323  
 Sweet, Tracy K. N., 271,  
   1309, 2995, 3771, 4063  
 Sweigart, Dwight A., 4493  
 Sykes, A. Geoffrey, 363,  
   2219, 2623, 4089, 4287  
 Symons, Martyn C. R., 153,  
   2361  
 Szafert, Sławomir, 439, 2755,  
   3469  
 Szczepura, Lisa F., 1463  
 Tabbi, Giovanni, 3449  
 Tadokoro, Makoto, 3335  
 Tagliatesta, Pietro, 2793  
 Tai, Zihou, 4439  
 Taiwo, Fatai A., 2361  
 Takeuchi, Kenneth J., 1463  
 Talarmin, Jean, 3967  
 Tam, Kwok-Kwong, 1125  
 Tamada, Osamu, 2083  
 Tamura, Hatsue, 1539  
 Tan, Agnes L., 2207, 4023,  
   4315  
 Tan, Xiang Shi, 2735  
 Tanaka, Koji, 1405  
 Tanase, Tomoaki, 3059  
 Tang, Guozhi, 2223  
 Tang, Ruihang, 4439  
 Tang, Wen Xia, 2223, 2309,  
   2735, 4425  
 Tangoulis, Vasilis, 3737  
 Tapparo, Andrea, 1601  
 Tasker, Peter A., 2835, 3039,  
   3045, 3421  
 Tassoni, Emanuela, 553  
 Tauzher, Giovanni, 4269  
 Taylor, Kenneth J., 329,  
   3521  
 Taylor, Max R., 3001  
 Taylor, Paul C., 2843  
 Teesdale-Spittele, Paul, 153  
 Tendero, María José L., 343,  
   2923, 4121  
 Terzis, Aris, 3737  
 Theobald, Brian R. C., 69  
 Thomann-Albach, Martina,  
   2815  
 Thornton, Peter, 1531  
 Thornton-Pett, Mark, 1741,  
   1775, 3111, 3323, 3813,  
   3819, 4155  
 Thorp, Derek, 1531  
 Tiekkink, Edward R. T., 1845,  
   2269  
 Timms, Peter L., 227  
 Tinant, Bernard, 2023  
 Tingry, Sophie, 2503  
 Tiripicchio, Antonio, 2155,  
   2763, 4365  
 Tocher, Derek A., 2423  
 Toftlund, Hans, 1215  
 Tokii, Tadashi, 4037, 4479  
 Tominaga, Toshihiro, 783  
 Tong, Ming-Liang, 2181  
 Tong, Ye-Xiang, 2443  
 Top, Siden, 3611  
 Törnroos, Karl W., 1597,  
   3313  
 Torroni, Sandro, 2727  
 Tóth, Imre, 1113  
 Toupet, Loic, 4041  
 Tresoldi, Giuseppe, 885  
 Tröger, Larc, 11  
 Trogu, Emanuele F., 3583  
 Tsuboyama, Kaoru, 45  
 Tsuboyama, Sei, 45  
 Tsuchiya, Kazuyoshi, 2391  
 Tudela, David, 2123  
 Türk, Thomas, 4513  
 Twamley, Brendan, 1145  
 Tzeng, Biing-Chiau, 1769  
 Uccelli, Licia, 3105  
 Udupa, M. Ramakrishna,  
   2253  
 Uehara, Katsuhiro, 3077  
 Ueki, Yutaka, 139  
 Uemura, Sakae, 4307  
 Ueno, Takafumi, 3859  
 Ueyama, Norikazu, 3859  
 Uguzzoli, Franco, 2155, 4365  
 Uguagliati, Paolo, 1921  
 Uhlenbrock, Stefan, 3731  
 Ukjii, Hirokazu, 3059  
 Ulic, Sonja E., 383  
 Uma, Rajendran, 2061  
 Underhill, Allan E., 823  
 Upreti, Amrapali, 1897  
 Usha, Sivagnanam, 2609  
 Usón, Isabel, 913  
 Utko, Józef, 3469  
 Vacca, Alberto, 2679, 2821,  
   3583  
 Vaisserman, Jacqueline, 2111  
 Valderrama, Mauricio, 2877  
 Valerga, Pedro, 377, 1305,  
   1935  
 Vallat, Joanna C., 2183  
 Valle, Giovanni, 1195, 2475  
 van den Beuken, Esther K.,  
   3561  
 van der Putten, Daniel, 1721  
 van der Wolf, Lodewijk, 353  
 van Eldik, Rudi, 1045, 1472,  
   1629, 2127, 2135, 2665,  
   2673, 4393  
 van Leeuwen, Piet W. N. M.,  
   2143, 3561  
 Vargas, María D., 739  
 Vargas, Moisés E., 4369  
 Varghese, Babu, 371  
 Várnagy, Katalin, 3265  
 Vaughan, Corrine, 415  
 Vázquez-López, Ezequiel M.,  
   1973  
 Vecchio, Graziella, 4351  
 Veith, Michael, 161, 2485  
 Veldman, Nora, 3561  
 Venäläinen, Tapani, 2581  
 Verani, Gaetano, 3705  
 Verhorevoort, Kerry L., 133,  
   2183  
 Vesprémi, Tamás, 1475  
 Vianello, Elio, 1613  
 Vicente, Ramon, 1013, 1835  
 Vicentini, Lidia, 3139  
 Vigner, Julien, 947  
 Viguri, Fernando, 2877  
 Vilar, Ramon, 4313  
 Villax, Ivan, 61  
 Visentin, Fabiano, 1921  
 Visscher, Karyn B., 2393,  
   3549  
 Viswanathan, Rathinam,  
   2519  
 Vo Huynh, My Hang, 1463  
 Vojtěšek, Pavel, 2685  
 Volkert, Wynn A., 4459  
 von Issendorff, Bernd, 665  
 Voyé, Alexander, 4605  
 Voyatzis, George A., 3405  
 Vuano, Sara, 4269  
 Wada, Hisae, 25  
 Wade, Kenneth, 4639  
 Wagner, Matthias, 2467  
 Wainwright, Kevin P., 1379,  
   3001  
 Wakita, Hisanobu, 3727  
 Wales, David J., 611  
 Walker, Alan P., 4517  
 Wallace, Emma, 823  
 Wallbridge, Malcolm G. H.,  
   431  
 Walsh, John R., 2491  
 Walton, Paul H., 401, 3337  
 Walton, Richard I., 2245  
 Wan, Susan, 1323  
 Wang, Bing, 955  
 Wang, Defen, 2309  
 Wang, Guoxiong, 3799  
 Wang, Han-Qing, 2911  
 Wang, Honggeng, 3889

Wang, Jitao, 3889  
 Wang, Kui, 3257  
 Wang, Liufang, 553  
 Wang, Meiping, 4533  
 Wang, Shuangxi, 553  
 Wang, Suning, 1341  
 Wang, Yue, 2827  
 Ward, Michael D., 873, 879,  
     2527, 4249, 4257  
 Wardell, James L., 541  
 Warnaar, Johann B., 353  
 Warren, Richard, 3959  
 Warzeska, Sabine, 3087  
 Watkinson, Michael, 2935  
 Watson, Ian M., 2491  
 Way, Todd C., 2553  
 Weakley, Timothy J. R.,  
     2537  
 Wear, Trevor J., 2341  
 Webster, Ian, 2527  
 Webster, Michael, 467, 823  
 Weckenmann, Ulrike, 4159  
 Wegner, Rainer, 3731  
 Welch, Alan J., 231, 329, 335  
 Weller, Andrew S., 335  
 Weller, Mark T., 7  
 Welton, Thomas, 2787  
 Wendelstorff, Carsten, 3087  
 Weng, Ting-Bin, 2911  
 Weng, Yu-Xiang, 3155  
 Werner, Helmut, 1153, 2275  
 Werth, Anja, 1551  
 West, Anthony R., 2497  
 Weyhermüller, Thomas, 4409  
 Wheatcroft, James R., 1069  
 Whitbread, Sonya L., 1379  
 White, Allan H., 1481, 1551,  
     1687, 2011, 2197, 2449,  
     2459, 3053, 3151, 3297  
 White, Andrew J. P., 149,  
     961, 2039, 3805, 4443  
 White, Peter S., 3917  
 Whiteley, Mark W., 3629,  
     3893, 4035  
 Whittle, Brenda, 4249  
 Whyman, Robin, 673  
 Wicks, Joseph L. M., 4055  
 Wiede, Petra, 4071  
 Wieghardt, Karl, 247, 1659,  
     4409  
 Wieser, Catherine, 4041  
 Wildgoose, Fiona A., 1437  
 Wilkinson, Geoffrey, 271,  
     1309, 2995, 3771, 4063  
 Willett, Gary D., 709, 4109  
 Willey, Gerald R., 1063, 4045  
 Williams, David J., 149, 961,  
     2039, 3647, 3805, 4245, 4443  
 Williams, Ian D., 1229  
 Williams, J. A. Gareth, 17,  
     3613  
 Williams, Steven A., 643  
 Willner, Helge, 383  
 Wilson, Giles D., 401  
 Windmüller, Bettina, 1153  
 Winpenny, Richard E. P.,  
     321, 2394, 3575, 3745, 4077  
 Wolfsberger, Werner, 1153  
 Wong, Kwok-Yin, 1829  
 Wong, Wai-Yeung, 1853,  
     2293, 3209  
 Wong, Wing-Tak, 899, 1707,  
     1853, 2177, 2293, 2887,  
     3153, 3209, 3911  
 Woodall, Lee J., 719  
 Woolhouse, Christopher M.,  
     3379, 4517  
 Woollam, Stephen F., 1031,  
     4171  
 Woollins, J. Derek, 1283,  
     2893, 3647, 3653, 3659,  
     4567, 4575  
 Worth, Gillian H., 3977  
 Wright, Dominic S., 133,  
     1727, 2183, 3793, 4153  
 Wright, Jonathan P., 69  
 Wright, Paul A., 3159  
 Wu, Biao, 3883  
 Wu, Bo-Mu, 177, 2207, 3485  
 Wu, Da-Xu, 2911  
 Wu, Liang Ping, 1525, 2031,  
     2179  
 Wu, Xin-Tao, 3883  
 Wu, Yu-Luan, 2181, 2443  
 Wullens, Hilda, 2023  
 Xiao, Hong, 3155, 3699  
 Xin, Xin-quan, 2617  
 Xu, Ruren, 3303  
 Xu, Yuming, 3889  
 Xu, Zhi-Tao, 3465  
 Xue, Wen-Mei, 2827  
 Yacob, Abdul R., 653  
 Yam, Vivian Wing-Wah,  
     1125, 2335, 2889, 3283,  
     3411, 4019, 4227  
 Yamaguchi, Kazuya, 1967  
 Yamaguchi, Tadashi, 4031  
 Yamaguchi, Toshio, 3727  
 Yamamoto, Masahiro, 305  
 Yamamoto, Mikiko, 2031  
 Yamamoto, Yasuhiro, 1815,  
     3059  
 Yamanari, Kazuaki, 305,  
     2851  
 Yamase, Toshihiro, 283,  
     1619  
 Yan, Hong, 2653  
 Yang, Chi, 1767  
 Yang, Guo Ying, 1573, 4083  
 Yang, Jincai, 391  
 Yang, Xiaoping, 3889  
 Yang, Yan-Sheng, 1767  
 Yang, Yu, 3609  
 Yao, Tianyang, 3799  
 Yap, Glenn P. A., 1249, 2659  
 Yasuda, Noriyuki, 45  
 Yasuda, Tsutomu, 1967  
 Yates, Hilary T., 771  
 Yates, Paul C., 3959  
 Ye, Bao-Hui, 3465  
 Yellowlees, Lesley J., 329,  
     2527, 3521, 4401  
 Yi, MaNu, 709  
 Yip, Wai-Hing, 4315  
 Yonezawa, Tetsu, 783  
 You, Xiaozeng, 2653  
 Young, Nigel A., 249, 1275  
 Yu, Kaibe, 3799  
 Yu, Peihua, 1983  
 Yu, Shu-Yan, 3883  
 Yu, Yong, 1443  
 Yue, Yong, 3303  
 Zaitseva, Natasha N., 3151  
 Zanello, Piero, 747, 885,  
     4337  
 Zangrandi, Ennio, 1021,  
     3139, 3449  
 Zanoni, Roberto, 1721  
 Zanotti, Valerio, 3693  
 Zavodnik, Valery E., 2123  
 Zehnder, Margareta, 4207  
 Zhang, Boyan, 3257  
 Zhang, Diankun, 3889  
 Zhang, Hua, 3799  
 Zhang, Jingjing, 2963  
 Zhang, Qi, 2773, 3843  
 Zhang, Shiwei, 3257  
 Zhang, Wei-Hong, 1767  
 Zhang, Wen-Jian, 3883  
 Zhang, Ze Ying, 4425  
 Zhang, Zheng-Zhi, 3475  
 Zheng, Dao Hong, 3931  
 Zheng, Peiju, 955, 1443  
 Zheng, Weiming, 2207  
 Zheng, Yifan, 1093, 2585  
 Zhou, Zhong Yuan, 177,  
     2207  
 Zhu, Longgen, 2653  
 Zhu, Ying, 553  
 Zhuang-Jackson, Hua-Yun,  
     4287  
 Ziessel, Raymond, 2533,  
     2581  
 Zingales, Roberto, 4597  
 Zink, Jeffrey I., 4027  
 Zsoldos, Daniela, 2581  
 Zubieto, Jon, 1093, 2047,  
     2585  
 Zucca, Antonio, 1295, 4217  
 Zukerman-Schpector, Julio,  
     1973  
 Zurita, Dacil, 4331  
 Zvargulis, Evan S., 4283

## SUBJECT INDEX

**AB INITIO CALCULATIONS**

Preparation, characterization and *ab initio* computation of the first binary antimony azide, Sb(N<sub>3</sub>)<sub>3</sub>, 2985  
 Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237  
 Tetraborane(10), B<sub>4</sub>H<sub>10</sub>: structures in gaseous and crystalline phases, 4589

**ACETYLIDE**

Bis(acetylide) complexes of ruthenium, 2011  
 Synthesis and photophysics of tetrานuclear copper(I) acetylides.  
 Crystal structure of [Cu<sub>4</sub>(P(C<sub>6</sub>H<sub>5</sub>Me-p))<sub>4</sub>(μ<sub>4</sub>-η<sup>4</sup>-C≡CPh)<sub>4</sub>], 2335  
 Synthesis, structure, photophysics, time-resolved emission spectroscopy and electrochemistry of luminescent copper(I) acetylide complexes, 3283

**ACIDITY**

Thermodynamic  $\alpha$ -CH acidities of amino acid fragments in five-coordinate bicycloazastannoxides in Me<sub>2</sub>SO, 3889

**ACTINIDE**

Monocyclooctatetraene uranium amide compounds in the +4 and +5 oxidation states, 947  
 Synthesis and reactivity of hydrogen-rich uranium-rhenium compounds; an unsuspected detrimental effect of alkali-metal halide on chemical metathesis, 1487  
 Uranium(IV) bis(amido), imido and bis(acetylide) complexes: synthesis, molecular structure, solution dynamics and interconversion reactions, 2541  
 Evolution of the modern periodic table, 3899

**ACYL**

Reactivity studies of  $\eta^2$ -acyl complexes of molybdenum. Kinetics of  $\eta^2$ -acyl to  $\eta^2$ -iminoacyl isomerization in their reactions with isocyanides, 3687

**ADAMANTYL**

Synthesis and isolation of two high-nucularity manganese(II) imido compounds: structural characterization of a compound containing a [Mn<sub>6</sub>(μ-NPh)<sub>4</sub>]<sup>4+</sup> core, 4613

**ADDUCT**

Unidentate nitrogen base adducts of aluminium trichloride, 3297

Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>2</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenabis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit-2I<sub>2</sub> and ebit-2I<sub>2</sub>, 3583

Reversible adduct formation between phosphines and triarylboron compounds, 3931

**ADENINE**

9-Methyladenine complexes of platinum(II) stabilized by trimethylphosphine: use of <sup>15</sup>N nuclear magnetic resonance spectroscopy to assign the co-ordination site, 299

**ADSORPTION ISOTHERM**

Synthesis and characterization of an unusual lamellar aluminophosphate synthesized from an alcohol system, 3303

**AEROGEL**

New materials by sol-gel processing: design at the molecular level, 3343

**AGGREGATION**

Laser-desorption mass spectrometry of [Ru<sub>6</sub>C(CO)<sub>17</sub>] and its derivatives: cluster aggregation in the gas phase, 771

Synthesis and structures of copper(II) anion-bridged aggregates and chains: control over molecular shape, 3173

Polymeric aggregation of cobalt and manganese dichlorides.

Synthesis, properties and structures of monomeric [CoCl<sub>2</sub>(tmen)<sub>2</sub>], ionic [Co<sub>2</sub>(μ-Cl)<sub>2</sub>(μ-Cl)<sub>2</sub>(tmen)<sub>2</sub>][BPh<sub>4</sub>]<sub>2</sub>, polymeric MnCl<sub>2</sub>-tmen and tetrานuclear [Mn<sub>4</sub>(μ-Cl)<sub>4</sub>Cl<sub>2</sub>(tmen)<sub>4</sub>] (tmen = Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>), 3469

Heteropolymer-like aggregates from [Pd<sub>2</sub>(dppf)<sub>2</sub>(μ-S)<sub>2</sub>]. Bonding and structural analysis of [Ag<sub>2</sub>Pd<sub>2</sub>Cl<sub>2</sub>(dppf)<sub>2</sub>(μ-S)<sub>2</sub>]-4CH<sub>2</sub>Cl<sub>2</sub> [dppf = Fe(C<sub>6</sub>H<sub>4</sub>PPh<sub>2</sub>)<sub>2</sub>]-a flat {Pd<sub>2</sub>S<sub>2</sub>} core with two AgCl 'tails', 4315

**AGOSTIC INTERACTION**

Agostic interactions in organometallic compounds. A Cambridge Structural Database study, 3925

**ALANE**

Preparation and structures of some new pyrrolidinido- and piperidinido-alanes and -aluminates, 211

**ALCOHOL**

Chemistry of oxovanadium(V) alkoxides: synthesis and structure of mononuclear complexes incorporating ethane-1,2-diol, 99

Methanol carbonylation revisited: thirty years on, 2187

Alcohol-alkoxide exchange between Sn(OBu')<sub>4</sub> and HOBu' in coordinating and non-co-ordinating solvents, 2659

**ALKALI METAL**

Diiron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties, 321

The chemistry and the geometric and electronic structures of small naked metal clusters prepared using a rotating cryostat and studied by electron paramagnetic resonance, 653

Dissolving alkali metals in zeolites: genesis of the perfect cluster crystal, 719

Alkali-metal complexes of a pendant-arm tetraaza macrocycle.

Equilibrium, inter- and infra-molecular exchange processes, 1379

Formation of ring-expanded products from certain combinations of tetraphenyldisiloxanediolates [(Ph<sub>3</sub>SiOM')<sub>2</sub>O] (M' = Li or Na) and Group 4 metal chlorides MCl<sub>4</sub>, 1449

On the nature of the interaction between potassium ions and bis(crown ether) derivatives as revealed by low-temperature carbon-13 nuclear magnetic resonance spectroscopy, 1455

Alkali-metal vanadium sulfate β alums, MV(SO<sub>4</sub>)<sub>2</sub>·12H<sub>2</sub>O (M = K, Rb or Cs): structural anomalies related to unsymmetrical occupancy of the t<sub>2g</sub> (O<sub>6</sub>) orbitals, 1481

Layers built from caesium cations and heptaphosphonortricyclane anions: synthesis and crystal structure of [NEt<sub>3</sub>Me][C<sub>5</sub>P<sub>7</sub>]·NH<sub>3</sub> and [NEt<sub>4</sub>][C<sub>5</sub>P<sub>7</sub>]·4NH<sub>3</sub>, 1653

An unusual anionic oxo-(μ-oxo)-vanadium(V) network interlinked by cationic sodium chains, 2111

Diiron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties (1996, 321), 2394

Low-co-ordination arsenic and antimony compounds: synthesis and characterisation of 2-arsa- and 2-stiba-1,3-dionatolithium(I)

complexes, [Li{OC(R)EC(R)O}L] (E = As or Sb; R = Bu', C<sub>6</sub>H<sub>5</sub>Pr', 2,4,6 or C<sub>6</sub>H<sub>5</sub>Bu', 2,4,6; L = Et<sub>2</sub>O or MeOCH<sub>2</sub>CH<sub>2</sub>OMe), 3277

Dilithium diamides [{Li{OC<sub>4</sub>H<sub>9</sub>}}<sub>2</sub>; C<sub>6</sub>H<sub>5</sub>(NR)<sub>2</sub>] (R = SiMe<sub>3</sub> or CH<sub>2</sub>Bu') derived from R-, S- or R,S-2,2'-diamino-1,1'-binaphthyl derivatives, 3595

Molecular structure of novel polymer-like complexes of armed-azacrown ethers with alkali-metal cations, 3871

Synthesis and spectroscopy of unsymmetric mononuclear lanthanide cryptates. Structure of two europium(III) cryptates co-existing in the same crystal [EuL(OH<sub>2</sub>)<sub>2</sub>·(Eu(HL)(NCS))·9H<sub>2</sub>O·2MeCN·Et<sub>2</sub>OEt] (H<sub>2</sub>L = a phenol-bridged N<sub>6</sub>O<sub>3</sub> Schiff-base cryptand), 3883

Agostic interactions in organometallic compounds. A Cambridge Structural Database study, 3925

Synthesis, structure and characterisation of [Ni(bipy)<sub>3</sub>][NaAl(ox)<sub>3</sub>] (bipy = 2,2'-bipyridine, ox = oxalate), 3985

Synthesis and nuclear magnetic resonance studies of molybdenum and tungsten thiolate complexes, 4011

Investigation of the properties of tris(2-cyanoethyl)phosphine by electrospray and Fourier transform ion cyclotron resonance mass spectrometries, 4109

Build-up of an Al<sub>4</sub>P<sub>6</sub>Li<sub>4</sub> cage from an Al<sub>4</sub>N<sub>4</sub> cube: synthesis and structure of [Li{OC<sub>4</sub>H<sub>9</sub>}]<sub>4</sub>[{(AlMe)[L-P(C<sub>6</sub>H<sub>5</sub>)]<sub>2</sub>}{L-P(C<sub>6</sub>H<sub>5</sub>)}]<sub>2</sub>·C<sub>6</sub>H<sub>5</sub>Me, 4153

Reactions of gallium(III) chloride with Li[ESiMe<sub>3</sub><sub>2</sub>] (E = Si or Ge): crystal structure of (R,Ge)ClGa(μ-OEt)<sub>2</sub>GaCl(GeR<sub>3</sub>) (R = SiMe<sub>3</sub>), 4183

**ALKALINE-EARTH METAL**

Synthesis and crystal structures of the new ternary nitrides Sr<sub>2</sub>CrN<sub>3</sub> and Ba<sub>2</sub>CrN<sub>3</sub>, 1

Selectivity of macrocyclic aminocarboxylates for alkaline-earth metal ions and stability of their complexes, 2347

Alkaline-earth-metal arenesulfonates as precursors to organic derivatives of Group 2 metals, 4151

**ALKANE**

Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Preparation and reactivities of chiral manganese(III) and copper(II) complexes of binaphthyl Schiff bases, 405

**ALKENE**

Group 4 metal alkoxide complexes as catalysts for olefin polymerization, 219

Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255

New mono- and bi-nuclear *ansa*-metallocenes of zirconium and hafnium as catalysts for the polymerisation of ethene and propene, 921

**ALKENE (contd)**

Unexpected substitution reactions of bis(phosphine)platinum ethene complexes, 1039  
Direct formation of alcohols by hydrocarbonylation of alkenes under mild conditions using rhodium trialkylphosphine catalysts, 1161

Equilibria and rates of olefin substitution in zerovalent palladium complexes containing a 2-pyridylmethanimine ligand, 1921  
Preparation and characterisation of 1,3,2-dithiazoazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with SNS<sup>+</sup>, 1997

Novel amphiphilic diphosphines: synthesis, rhodium complexes, use in hydroformylation and rhodium recycling, 2143  
Synthesis, characterisation and reactions of bis-[2-(dimethylaminomethyl)phenyl] diselenide: its structure and that of [2-(dimethylaminomethyl)phenyl]selenium bromide, 2719

A new method of creating co-ordinative unsaturation: synthesis and reactions of a reactive iridium(I) complex [ $\text{Ir}(\text{CO})(\text{PPh}_3\text{CH}_2\text{C}(\text{Bu})=\text{N}-\text{C}(\text{Bu}')\text{CH}_2\text{PPPh}_2)]\text{PF}_6$ : crystal structures of [ $\text{Ir}(\text{CO})(\eta^2-\text{L})(\text{PPh}_3\text{CH}_2\text{C}(\text{Bu})=\text{N}-\text{C}(\text{Bu}')\text{CH}_2\text{PPPh}_2]\text{PF}_6$  ( $\text{L} = \text{MeO}_2\text{CC}\equiv\text{CO}_2\text{Me}$  or  $\text{COCH}=\text{CHCONMe}_2$ ), 3111

Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrogen ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and olefins, 3139

**ALKENOL**

Hydrocarbonylation of prop-2-en-1-ol to butane-1,4-diol and 2-methylpropan-1-ol catalysed by rhodium triethylphosphine complexes, 1793

Unsaturated ether chelate complexes of ruthenium(II), 2571

**ALKOXIDE**

Chemistry of oxovanadium(V) alkoxides: synthesis and structure of mononuclear complexes incorporating ethane-1,2-diol, 99  
Group 4 metal alkoxide complexes as catalysts for olefin polymerization, 219

Diron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties, 321

Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametalate derivatives, 681

Polyoxotitanates join the Keggin family: synthesis, structure and reactivity of  $[\text{Ti}_{10}\text{O}_{29}\text{H}][\text{OBu}^+]_7$ , 691

Ditungsten hexaalkoxides: templates for organometallic chemistry and catalysis, 1781

An unusual tetrานuclear copper(II) acetate structure with an open cubane  $\text{Cu}_4\text{O}_4$  framework, 2179

Diron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties (1996, 321), 2394

Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on  $\text{M}_2(\text{OPr})_9^-$  ( $\text{M} = \text{Sn}, \text{Zr}$  or  $\text{Ti}$ ) anions: crystal and molecular structures of  $[\text{CdI}(\text{Sn}_2(\text{OPr})_9^-)_2]$  and  $[\text{SnI}(\text{Zr}_2(\text{OPr})_9^-)_2]$ , 2485

Dinuclear alkoxide-bridged ruthenium(II) complexes with Class III mixed-valence states: a structural and spectroelectrochemical study, 2527

Alcohol-alkoxide exchange between  $\text{Sn}(\text{OBu}^+)_4$  and  $\text{HOBu}^+$  in co-ordinating and non-co-ordinating solvents, 2659

New materials by sol-gel processing: design at the molecular level, 3343

Novel structural forms for imidoamides and oxoalkoxides of bismuth, 4159

Reactions of gallium(III) chloride with  $\text{Li}[\text{E}(\text{SiMe}_3)_2]$  ( $\text{E} = \text{Si}$  or  $\text{Ge}$ ): crystal structure of  $(\text{R}_3\text{Ge})\text{ClGa}(\mu\text{-OEt})_2\text{GaCl}(\text{GeR}_3)$  ( $\text{R} = \text{SiMe}_3$ ), 4183

**ALKYL**

Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255

Synthesis and properties of some gallium amidine complexes  $[\text{GaX}_2\text{L}_3^-]$  [ $\text{X} = \text{Me}, \text{Et}$  or  $\text{Cl}$ ;  $\text{L} = \text{RNCR}'\text{NR}$  ( $\text{R}, \text{R}' = \text{H}$ , alkyl or aryl);  $y = 0-2$ ]. Crystal structures of  $[\text{GaMe}_2(\text{PhNCPPhN})]$  and  $[\text{GaMe}(\text{PhNCPPhN})_2]$ , 431

Preparations and crystal structures of  $\text{Sn}(\text{CH}_2\text{CH}_2\text{CO}_2\text{Me})_2(\text{C}_5\text{S}_5)$  and  $[\text{Q}]^+\text{Sn}(\text{CH}_2\text{CH}_2\text{CO}_2\text{Me})_2(\text{C}_5\text{S}_5)^-$  ( $\text{Q} = \text{NEt}_4$  or 1,4-dimethylpyridinium,  $\text{C}_5\text{S}_5^- = 4,5\text{-disulfanyl-1,3-dithiole-2-thionate}$ ), 541

Methylzinc tetrahydroborate: physical and chemical properties and crystal structure at low temperature, 853

Cationic platinum(II) complexes: platinum-alkyl bond cleavage by a powerful Lewis acid, 1809

Structural chemistry of triorganotin fluorides. The crystal structure of tricyclohexyltin fluoride revisited, 2123

Trichloro-, mono-, di- and tri-organotin(IV) derivatives of hydridotris(4-methylpyrazol-1-yl)borates, 2475

Reactivity of diphosphines towards methyl- and phenyl-mercury(II)

ions. Crystal structure of  $[\text{Hg}(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2][\text{O}_3\text{SCF}_3]_2$ , 2821

Synthesis and characterisation of ( $\eta^5$ -cyclopentadienyl)( $\eta^5$ -ring)tin alkyl (ring = indenyl or  $\text{C}_5\text{H}_7\text{Bu}'$ ) complexes. Crystal and molecular structure of racemic  $[\text{Ti}(\eta^5\text{-C}_5\text{H}_5)\eta^5\text{-C}_5\text{H}_7\text{CH}_2\text{SiMe}_2]\text{Cl}$ , 2843

Synthesis and reactivity of aryl- and alkyl-palladium(II) complexes with functional phosphines and phosphinoenolate ligands: first analogues of model nickel catalysts, 2903

Reaction of the  $\eta^2(4e)$ -donor alkyne complexes  $[\text{Mo}\{\eta^2(4e)\text{-R}'\text{C}_2\text{R}^2\}\{\text{P}(\text{OMe})_3\}_2(\eta^2\text{-C}_5\text{H}_5)]$  ( $\text{R}' = \text{Ph}$  or  $\text{Me}$ ;  $\text{R}^1 = \text{Me}$ ,  $\text{R}^2 = \text{Ph}$ ) with the Grignard reagents  $\text{MgR}^3(\text{X})$  ( $\text{R}^3 = \text{Me}$ ,  $\text{Et}$ ,  $\text{CH}_2\text{Ph}$ ,  $\text{CH}_2\text{CH}=\text{CH}_2$  or  $\text{CH}=\text{CH}_2$ ) and  $\text{CH}_2(\text{MgI})_2$ , 3387

Synthesis, photophysics and electrochemistry of  $[\text{Au}_2(\text{dpdpfR}_2)]$  [ $\text{dpdpf} = \text{Fe}(\eta^5\text{-C}_5\text{H}_7\text{PPh}_2)_2$ ;  $\text{R} = \text{alkyl, aryl or alkynyl}$ ]. Crystal structure of  $[\text{Au}_2(\text{dpdpf}(\text{C}_6\text{H}_5)_2)]$  ( $\text{C}_6\text{H}_5 = \text{pyren-1-yl}$ ), 3411

Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527

Synthesis and nuclear magnetic resonance investigation of 1-phenylpropane-1,2-dione 2-oxime complexes of trimethylplatinum(IV), 3543

Synthesis and structure of an organic-soluble cage aluminophosphonate, 3609

Derivatives of Group 4 metal amide chlorides and fluorides: synthesis, structure and characterization of novel dimethyl and fluoro-chloro complexes, 4143

Build-up of an  $\text{Al}_4\text{P}_4\text{Li}_4$  cage from an  $\text{Al}_4\text{N}_4$  cubane: synthesis and structure of  $[\text{Li}(\text{OC}_6\text{H}_5)_4]_2[(\text{AlMe})[\mu\text{-P}(\text{C}_6\text{H}_5)_3]]_2[\mu\text{-P}(\text{C}_6\text{H}_5)_3]\text{Li}_2\text{C}_6\text{H}_5\text{Me}$ , 4153

Mixed iron-silicon-tin complexes stabilized by a phosphinoenolate bridging ligand. Crystal structure of  $[(\text{OC})_3\{\text{MeO}_3\text{Si}\}-\text{Fe}(\mu\text{-Ph}_2\text{PCH}=\text{C}(\text{O})\text{Ph})\text{SnBu}^+]_2$ , 4365

An expedient, mild, reductive method for the preparation of alkylferrocenes, 4617

**ALKYL HALIDE**

Electrochemical carboxylation of arylmethyl chlorides catalysed by  $[\text{Co}(\text{salen})]\text{H}_2\text{salen} = N,N'$ -bis(salicylidene)ethane-1,2-diamine, 1613

**ALKYLDENE**

Bent versus linear imido ligands in five-co-ordinate molybdenum complexes, 4197

**ALKYLDYNE**

Face versus vertex co-ordination of tridentate crown thioethers to trinuclear cobalt clusters, 1875

Dismantling a dinuclear metallacyclopentadiene: alkyne scission in cobalt-molybdenum clusters, 3909

**ALKYNE**

Reactions of the unsaturated alkyne cluster  $[\text{Os}_3(\text{CO})_7\{\mu\text{-}\eta^2(\perp)\text{-PhC}_2\text{Ph}\}(\text{dpdp})]$  with P-donors; crystal structures of  $[\text{Os}_3(\text{CO})_6(\text{PhC}_2\text{Ph})(\text{dpdp})\{\text{P}(\text{OMe})_3\}]$  and two isomers of  $[\text{Os}_3(\text{CO})_6(\text{PhC}_2\text{Ph})(\text{dpdp})(\text{PBu}_3)]$  ( $\text{dpdp} = \text{Ph}_2\text{PCH}_2\text{PPh}_2$ ), 117

Synthesis and reactivity of  $\eta^2(4e)$ -alkyne and  $\eta^2(3e)$ -vinyl complexes of rhenium, 415

Linking and fragmentation of alkynes at a triruthenium centre, 975

Mechanisms of alkyne trimerisation at molybdenum and tungsten centres leading to novel metallacycles: crystal and molecular structures of two isomeric forms of  $[\text{Mo}(\text{CF}_3)_2(\text{C}(\text{CF}_3)_2\text{C}(\text{CF}_3)_2\text{C}(\text{CO}_2\text{Me})\text{C}(\text{CO}_2\text{Me})(\text{SPR})]-(\eta^5\text{-C}_5\text{H}_5)_2$ , 999

Synthesis of tetranuclear cobalt-molybdenum butterfly clusters with alkyne ligands: crystal structure of  $[\text{Co}_2\text{Mo}_2(\mu_2\text{-C}_2\text{Me}_2\text{-}(\mu\text{-CO})_4(\text{CO})_4(\eta^5\text{-C}_5\text{H}_5)_2)]$ , 1437

Some transition-metal complexes derived from silylated 1,3-dynes, 1551

Reactions of  $[\text{RhRu}_2\text{H}(\eta^5\text{-C}_5\text{Me}_3)(\text{CO})_2\text{BH}_2]$  with ditellurite phosphines and the synthesis and crystal structure of  $[\text{RhRu}_2\text{H}(\eta^5\text{-C}_5\text{Me}_3)(\text{CO})_2\text{dppp-P}_2\text{P}(\text{Bu})\text{AuB}]$  ( $\text{dppp} = 1,1'\text{-bis(diphenylphosphino)ferrocene}$ ), 2917

A new method of creating co-ordinative unsaturation: synthesis and reactions of a reactive iridium(I) complex  $[\text{Ir}(\text{CO})(\text{PPh}_3\text{CH}_2\text{C}(\text{Bu})=\text{N}-\text{C}(\text{Bu}')\text{CH}_2\text{PPPh}_2)]\text{PF}_6$ : crystal structures of  $[\text{Ir}(\text{CO})(\eta^2\text{-L})(\text{PPh}_3\text{CH}_2\text{C}(\text{Bu})=\text{N}-\text{C}(\text{Bu}')\text{CH}_2\text{PPPh}_2]\text{PF}_6$  ( $\text{L} = \text{MeO}_2\text{CC}\equiv\text{CO}_2\text{Me}$  or  $\text{COCH}=\text{CHCONMe}_2$ ), 3111

Molybdenum-mediated cycloisation reactions involving prop-2-ynyl, alkyne and carbon monoxide ligands, 3379

Reaction of the  $\eta^2(4e)$ -donor alkyne complexes  $[\text{Mo}(\eta^2(4e)\text{-R}'\text{C}_2\text{R}^2)\{\text{P}(\text{OMe})_3\}_2(\eta^2\text{-C}_5\text{H}_5)]$  ( $\text{R}' = \text{Ph}$  or  $\text{Me}$ ;  $\text{R}^1 = \text{Me}$ ,  $\text{R}^2 = \text{Ph}$ ) with the Grignard reagents  $\text{MgR}^3(\text{X})$  ( $\text{R}^3 = \text{Me}$ ,  $\text{Et}$ ,  $\text{CH}_2\text{Ph}$ ,  $\text{CH}_2\text{CH}=\text{CH}_2$  or  $\text{CH}=\text{CH}_2$ ) and  $\text{CH}_2(\text{MgI})_2$ , 3387

Dismantling a dinuclear metallacyclopentadiene: alkyne scission in cobalt-molybdenum clusters, 3909

Multimetallic complexes of molybdenum(II) and tungsten(II) derived from  $[\text{W}_2(\text{CO})\{\text{PhP}(\text{CH}_2\text{CH}_2\text{PPh}_2)_2\text{-P}_2\}(\eta^2\text{-RC}_2\text{H}_2)]$  ( $\text{R} = \text{Me}$  or  $\text{Ph}$ ). Crystal structures of  $[\text{W}_2(\text{CO})\{\text{PhP}(\text{CH}_2\text{CH}_2\text{PPh}_2)_2\text{-P}_2\}(\eta^2\text{-MeC}_2\text{R})]$  ( $\text{R} = \text{Me}$  or  $\text{Ph}$ ), 3995

**ALKYNE (contd)**

Synthesis structure and reactivity of  $\eta^4(Se)$ -butadienyl substituted molybdenum complexes, 4517  
 Molybdenum(III) chloride-tetrahydrothiophene (tht) complexes in the catalytic polymerization and cyclotrimerization of alkynes: structures and reactivities of the possible intermediates  $[MoCl_3(tht)_2(PhC\equiv CR)]$  ( $R = Me$  or  $Et$ ), 4533

**ALKYNYL**

A halide-free route to Groups 12 and 13 organometallic and metalloorganic complexes, 133  
 Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(V) diphosphine complexes and related nitridorhenium(V) organometallics; crystal structure of  $[Re^V(N(C\equiv CBu')_2)(PPh_3)_2]$ , 1125  
 Bis(acetylidyne) complexes of ruthenium, 2011  
 Selenium insertion into a cadmium-carbon bond: synthesis and structural characterisation of the loosely linked dimer  $[(Cd(SeC\equiv CPh)_2)(tmen)]$  ( $tmen = Me_2NCH_2CH_2NMe_2$ ), 2183  
 Synthesis and photophysics of tetrานuclear copper(I) acetylides. Crystal structure of  $[Cu_4(P(C_6H_4Me-p)_3)_4(\mu_3-\eta^1-C\equiv CPh)_4]$ , 2335  
 Uranium(IV) bis(amido), imido and bis(acetylidyne) complexes: synthesis, molecular structure, solution dynamics and interconversion reactions, 2541  
 Synthesis of alkynyl, cyclic carbene and vinylidene osmium(II) complexes: first indenyl half-sandwich osmium(II) complexes, 2547  
 Synthesis, structure and reactivity of homo- and hetero-polynuclear complexes of platinum bearing  $C\equiv CR$  groups as unique bridging ligands, 2587  
 Photophysics and photochemical reactivities of organocopper(I) complexes. Crystal structure of  $[Cu_2(PPh_2Me)_4(\mu,\eta^1-C\equiv CPh)_2]$ , 2889  
 Luminous complexes containing a gold(I) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155  
 Molybdenum-mediated cycloaddition reactions involving prop-2-ynyl, alkyne and carbon monoxide ligands, 3379  
 The reaction of HCl with  $[MoH_3(CCBu')_2(PPh_2CH_2)_2]$ : enforced protonation at the metal gives an alkyne, 3397  
 Synthesis, photophysics and electrochemistry of  $[Au_2(dppf)R_2]$  [ $dppf = Fe(\eta-C_6H_4PPh_2)_2$ ;  $R = alkyl, aryl$  or  $alkynyl$ ]. Crystal structure of  $[Au_2(dppf)(C_6H_5)_2]$  ( $C_6H_5 = pyren-1-yl$ ), 3411  
 Synthesis, characterisation and electrochemical analysis of a bis-(ferrocenyl) vinyl allyl ether-substituted triosmium cluster, 3521  
 Photophysical properties and crystal structures of luminescent phenylethylnylgold(I) complexes of alkyl and aryl isocyanides, 3699  
 Synthesis, photophysics and photochemistry of alkynylgold(I) phosphine complexes, 4227

**ALLENYLIDENE**

Synthesis and reactivity of cationic vinylidene and allenylidene ruthenium(II) complexes containing the phosphinoether  $Pr_2PC_6H_3CH_2OMe$  as chelating ligand, 2275

**ALLYL**

Synthesis, structure and properties of new iron-molybdenum and -tungsten fulvalene-bridged heterobimetallic complexes, 1323

**ALUM**

Alkali-metal vanadium sulfate  $\beta$  alums,  $MV(SO_4)_2 \cdot 12H_2O$  ( $M = K, Rb$  or  $Cs$ ): structural anomalies related to unsymmetrical occupancy of the  $t_{1g}$  ( $O_h$ ) orbitals, 1481

**ALUMINIUM**

Preparation and structures of some new pyrrolidinido- and piperidinido-alanes and -aluminates, 211  
 Alane- and gallane-sulfur donor chemistry: synthesis of  $AlH_3NMe(CH_2CH_2)_2S$ ,  $[AlH_2(\mu-N(CH_2CH_2)_2S)]_2$  and  $MH(SCH_2CH_2NEt_2)_2$  ( $M = Al$  or  $Ga$ ), 829  
 Crystal structure and solution-state study of  $K[Al(al mal)(H_2O)_2] \cdot 2H_2O$  ( $H_2mal$  = malonic acid), 1601  
 Reactions of electrophiles with  $[(Bu'N)_2Re^{VI}(\mu-NBu')]$ , 2995  
 Monomeric, N-functionalised amido complexes of aluminium. synthesis of  $[AlCl\{NR(8-C_9H_6N)\}_2]$  ( $R = H$  or  $SiMe_3$ ) and  $[Al\{N(2-C_6H_4N)(2-C_6H_4N)\}_2]$ , 3053  
*Ab initio* structure solution of a novel aluminium methylphosphonate from laboratory X-ray powder diffraction data, 3159  
 Unidentate nitrogen base adducts of aluminium trichloride, 3297  
 Synthesis and characterization of an unusual lamellar aluminophosphate synthesized from an alcohol system, 3303  
 Synthesis and structure of an organic-soluble cage aluminophosphonate, 3609  
 Rapid and mild synthesis of  $[Re_2(CO)_{10}]$  by reduction of  $[NH_4][ReO_4]$  at atmospheric CO pressure, 3611  
 Synthesis, structure and characterisation of  $[Ni(bipy)_3][NaAl(ox)_3]$  ( $bipy = 2,2'-bipyridine$ ,  $ox$  = oxalate), 3985  
 Preparation and crystal structure of  $[(AlBr_5)(SeN_2)]$ , the first example of a main-group element adduct of diselenium dinitride, 4029  
 Build-up of an  $Al_4P_6Li_4$  cage from an  $Al_4N_4$  cube: synthesis and structure of  $[Li(OC_4H_8)_4\{(AlMe)[\mu-P(C_6H_11)]\}_2\{\mu-P(C_6H_11)\}_2]_2$ ,  $C_6H_3Me$ , 4153

Aluminium amides derived from metallation of  $N,N'$ -di-*tert*-butylethylenediamine, 4163

**ALUMINOPHOSPHONATE**

Synthesis and structure of an organic-soluble cage aluminophosphonate, 3609

**AMIDATE**

Heteronuclear Pt-Pd, Pt-Cu and Pt-Ni complexes with bridging acetamide: crystal structures and spectroscopic studies, 1823  
 Dinuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227  
 First examples of polymeric mixed-metal (Pt-Ag) complexes containing single acetamide bridges: *cis*- $[(NH_3)_2Pt(NHCOMe)_2Ag]NO_3 \cdot 4H_2O$  and *trans*- $[(NH_3)_2Pt(NHCOMe)_2Ag]NO_3 \cdot 1.5H_2O$ , 2329

**AMIDE**

Tripodal amido-titanium and -zirconium complexes containing a trisilylsilane-derived ligand framework, 125  
 A halide-free route to Groups 12 and 13 organometallic and metalloorganic complexes, 133  
 Pentamethylcyclopentadienyl imido compounds of chromium, 271  
 Preparations and structures of a series of novel, mono-substituted *cis*,*cis*-1,3,5-triaminocyclohexane-based complexes, 401  
 Alane- and gallane-sulfur donor chemistry: synthesis of  $AlH_3NMe(CH_2CH_2)_2S$ ,  $[AlH_2(\mu-N(CH_2CH_2)_2S)]_2$  and  $MH(SCH_2CH_2NEt_2)_2$  ( $M = Al$  or  $Ga$ ), 829  
 Monocyclooctatetraene uranium amide compounds in the +4 and +5 oxidation states, 947  
 Structure and reactivity of  $[(Te(NMe_2)_2)_n]$ : application to the preparation of metalloorganic tellurium(II) compounds, 1727  
 Synthesis and structural characterization of organometallic niobium(IV) amido complexes, 1979  
 Uranium(IV) bis(amido), imido and bis(acetylidyne) complexes: synthesis, molecular structure, solution dynamics and interconversion reactions, 2541  
 P-N-S/Se-containing metallacycles, 2893  
 Reactions of electrophiles with  $[(Bu'N)_2Re^{VI}(\mu-NBu')]$ , 2995  
 Monomeric, N-functionalised amido complexes of aluminium: synthesis of  $[AlCl\{NR(8-C_9H_6N)\}_2]$  ( $R = H$  or  $SiMe_3$ ) and  $[Al\{N(2-C_6H_4N)(2-C_6H_4N)\}_2]$ , 3053  
 Dilithium diamides  $[(Li(OC_4H_8)_2)_2C_20H_{12}(NR)_2]$  ( $R = SiMe_3$  or  $CH_2Bu$ ) derived from  $R$ ,  $S$  or  $R,S,2,2'$ -diamino-1,1'-binaphthyl derivatives, 3595  
 Complexes of  $[Ph_2P(O)NP(E)Ph_2]^-$  ( $E = S$  or  $Se$ ): disparate ring conformations within a new palladacycle, 3659  
 Reactions of imido complexes of iridium, rhodium and ruthenium, 3771  
 Chloride- and dihydrogenphosphate-selective anion recognition by new acyclic mono-, bis- and tris-cobaltocenium receptors, 4129  
 Derivatives of Group 4 metal amide chlorides and fluorides: synthesis, structure and characterization of novel dimethyl and fluoro-chloro complexes, 4143  
 Novel structural forms for imidoamides and oxoalkoxides of bismuth, 4159  
 Aluminium amides derived from metallation of  $N,N'$ -di-*tert*-butylethylenediamine, 4163  
 Syntheses and crystal structures of phenyl(2-pyridyl)amido complexes of zirconium(IV), niobium(V) and tantalum(V), 4345

**AMIDINE**

Synthesis and properties of some gallium amidine complexes  $[GaX_2L_{3-y}]$  [ $X = Me, Et$  or  $Cl$ ;  $L = RNCR'NR$ , ( $R, R' = H, alkyl$  or  $aryl$ ),  $y = 0-2$ ]. Crystal structures of  $[GaMe_2(PhNCPhNPh)]$  and  $[GaMe(PhNCPhNPh)_2]$ , 431  
 Crystal structure of a copper(II)-famotidine complex and solution studies of the  $Cu^{2+}$ -famotidine-histidine ternary system, 1905

**AMINE**

Stabilizing structure of tertiary amine-protected rhodium colloid dispersions in chloroform, 783  
 Structure and magnetic behaviour of the first singly bridged nickel cyanate chain and a new dinuclear complex: an approximation to the superexchange mechanism for the nickel pseudoohalide system, 1013  
 Unexpected ring contraction in the barium-assisted cyclocondensation of 2,6-diformylpyridine and  $N,N$ -bis(2-aminoethyl)-2-phenylethylamine, 1181  
 Structural variations in nickel(II) and copper(II)  $MN_4$  Schiff-base complexes with deprotonated tetradentate  $N,N'$ -bis(5-amino-pyrazol-4-ylmethylene)polymethylenediamine ligands, 1215  
 Late transition-metal complexes with the heterofunctional phosphine  $Ph_2PNHP(O)Ph_2$ , 1283  
 Co-ordination chemistry of 1,4-bis(*o*-aminobenzyl)-1,4-diazacyclohexane (L) with nickel(II), copper(II) and palladium(II), 1659  
 Synthesis, magnetic behaviour and structural characterization of the alternating hexanuclear copper(II) compound  $[Cu_6(tmnen)_6(\mu-N_3)(\mu-C_6O_4)(H_2O)_2][ClO_4]_4 \cdot 2H_2O$  ( $tmnen = Me_2NCH_2CH_2NMe_2$ ), 1835  
 Copper(I) and -II complexes with tertiary linear polyamines of

**AMINE (contd)**

the type  $\text{Me}_2\text{NCH}_2(\text{CH}_2\text{NMeCH}_2)_n\text{CH}_2\text{NMe}_2$  ( $n = 1-4$ ), 2055  
 Formation of axial phenolate–metal bonds in square-pyramidal complexes, 2233  
 Synthesis of phosphate–phenylphosphonates of titanium(IV) and their *n*-butylamine intercalates, 2285  
 Mössbauer and electron paramagnetic resonance studies on some new bis(ligated) porphyrinatoiron(III) complexes with aliphatic amines. Models for cytochromes b, 2361  
 Synthesis, structure, spectra and redox chemistry of iron(III) complexes of tridentate pyridyl and benzimidazolyl ligands, 2519  
 Kinetic study of stereochemical and other factors governing hydrolytic cleavage of a peptide ligand in binuclear palladium(II) complexes, 2653  
 Correlation between kinetic and thermodynamic complex-formation constants for the interaction of bis(amine)palladium(II) with inosine, inosine 5'-monophosphate and guanosine 5'-monophosphate, 2673  
 Zinc(II) complexes of tripodal ligands providing phenolate and pyridine donors: formation, structure and hydrolytic activity, 2857  
 P-N–S/Se-containing metallacycles, 2893  
 Asymmetric copper complexes of stable mono-*tert*-butyl monobenzyl dithiocarbonyl N,S<sub>2</sub> ligands, 3001  
 Eight-membered chelate-ring complexes of cobalt(III)-polyamine complexes of aminopolyphosphonates in aqueous solution, 3077  
 Synthesis, structure and spectroscopic studies on hydroxo-bridged heterotrinuclear complexes of cobalt(III) with ethane-1,2-diamine and ammonia as terminal ligands, 3179  
 Syntheses of new copper(II) mixed-ligand complexes and their chromatotropic properties in solution and in the solid state, 3251  
 Preparations and structures of two *cis*,*cis*-1,3,5-triaminocyclohexane-based complexes containing hydrogen-bonded solvent molecules, 3337  
 Complexes of  $[\text{Ph}_2\text{P}(\text{O})\text{NP}(\text{E})\text{Ph}_2]^-$  ( $\text{E} = \text{S or Se}$ ): disparate ring conformations within a new palladacycle, 3659  
 Synthesis and photophysics of dinuclear gold(I) thiolates of bis(diphenylphosphino)-alkyl- and -aryl-amines. Crystal structure of  $[\text{Au}_2(\text{Ph}_2\text{PN}(\text{C}_6\text{H}_{11})\text{PPPh}_2)(\text{SC}_6\text{H}_4\text{F}-p)]$ , 4019  
 Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diiiron(III) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037  
 Molecules bearing a redox-active spacer. Synthesis and co-ordination behaviour of 1,1'-bis(5-methyl-2,5-diazahexyl)ferrrocene, 4121  
 Aluminium amides derived from metallation of *N,N*-di-*tert*-butylethylenediamine, 4163  
 An electrospray mass spectrometry study of some metal-ion cage complexes, 4417  
 Chemical origin of high activity in oxygenation of cyclohexane by H<sub>2</sub>O<sub>2</sub> catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479  
 Co-ordination chemistry of a P,O-donor ligand: synthesis of new complexes of Ru, Rh and Ir containing Ph<sub>2</sub>PNHP(O)Ph<sub>2</sub> or [Ph<sub>2</sub>PNP(O)Ph<sub>2</sub>]<sup>-</sup>, 4575

**AMINO ACID**

Chemistry of oxovanadium(V) alkoxides: synthesis and structure of mononuclear complexes incorporating ethane-1,2-diol, 99  
 Crystal structure of a copper(II)-famotidine complex and solution studies of the Cu<sup>2+</sup>-famotidine–histidine ternary system, 1905  
 Crystal and molecular structure of [V<sub>2</sub>O<sub>3</sub>(sal-i-val)<sub>2</sub>(H<sub>2</sub>O)] (sal-i-val = *N*-salicylidene-L-valinate) and spectroscopic properties of related complexes, 1989  
 Stabilization of monofunctional platinum–nucleotide adducts: reactions of *N*-acetyl-L-methionine complexes with guanosine 5'-monophosphate and guanylyl(3'-5')guanosine, 2867  
 Ultraviolet–circular dichroism spectra for structural analysis of copper(II) complexes with aliphatic and aromatic ligands in aqueous solution, 3269  
 Structure of copper(II) complexes with L-leucyl-D- or L-leucyl-L-phenylalanine and molecular orbital calculations on their stabilization, 3449  
 Zinc(II) complexes of phosphonic acid analogues of glutamic acid, 3455  
 Thermodynamic  $\alpha$ -CH acidities of amino acid fragments in five-coordinate bicycloazastannoxides in Me<sub>2</sub>SO, 3889  
 A chiral tetrานuclear platinum(II) cluster complex,  $[\text{Pt}_4(\text{O}_2\text{CMe})_6(\text{pro})_4]$  (*Hpro* = L-proline), 4031  
 Amide nitrogen co-ordination of Co<sup>II</sup> and Ni<sup>II</sup> in ternary 2,2'-bipyridine-containing systems. A solution and solid-state study, 4201

**AMINOALCOHOL**

Fluxionality in polynuclear copper(II) complexes containing aminoalcoholate ligands: syntheses, crystal structures, and <sup>1</sup>H nuclear magnetic resonance studies, 1341  
 Synthesis and characterization of alkoxo–oxygen-bridged copper(II) complexes having disc- and rod-like shapes, 1761  
**AMINE**  
 Synthesis, acid hydrolysis and formation of the  $[(\text{H}_3\text{N})_5\text{CoOMoO}_3]^{+}$  ion in aqueous solution, 2637

**Preparation and characterization of rhodium(III) complexes containing 1,1,1-tris(dimethylphosphinomethyl)ethane (tdmme).**

Structures of  $[\text{RhX}_3(\text{tdmme})]$  ( $X = \text{Cl, Br or I}$ ),  $[\text{Rh}(\text{NH}_3)_3(\text{tdmme})]^{3+}$  and  $[\text{Rh}(\text{tdmme})_2(\mu-\text{X})]^{3+}$  ( $X = \text{Cl or OH}$ ) in the solid state and in solution, 3779

**AMMONIA**

Reduction of dinitrogen bound at an iron(0) centre, 3539

**ANION RECOGNITION**

Chloride- and dihydrogenphosphate-selective anion recognition by new acyclic mono-, bi- and tri-cobaltocenium receptors, 4129

**ANSA-METALLOCENE**

New mono- and bi-nuclear *ansa*-metallocenes of zirconium and hafnium as catalysts for the polymerisation of ethene and propene, 921

**ANTHRACENYL**

Luminescent complexes containing a gold(I) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155

**ANTHRYL**

Covalently linked anthracene-containing supramolecular complexes of triosmium carbonyl clusters: synthesis, crystal structures and solvatochromic behaviour, 1853

**ANTIMONY**

Preparation, characterization and *ab initio* computation of the first binary antimony azide, Sb(N<sub>3</sub>), 2985

Low-co-ordination arsenic and antimony compounds: synthesis and characterisation of 2-arsa- and 2-stiba-1,3-dionatolithium(I) complexes,  $[\text{Li}^{\pm}\{\text{OC}(\text{R})\text{EC}(\text{R})\text{O}\}^{\pm}\text{L}]$  ( $\text{R} = \text{As or Sb; R} = \text{Bu}^{\prime}, \text{C}_6\text{H}_5\text{Pr}^{\prime}_3, 2,4,6$  or  $\text{C}_6\text{H}_5\text{Bu}^{\prime}, 2,4,6$ ;  $\text{L} = \text{Et}_2\text{O}$  or MeOCH<sub>2</sub>CH<sub>2</sub>OMe), 3277

Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes  $\text{MC}_3\text{L}$  ( $\text{M} = \text{As, Sb or Bi; L} = 1,4,7$ -trimethyl-1,4,7-triazaacyclonanone). Formation and crystal structures of  $[\text{AsCl}_3\text{L}]$ ,  $[\text{As}_2\text{OCl}_5]$ ,  $[\text{H}_2\text{L}]_2$ ,  $[\text{Sb}_2\text{OCl}_6]\text{Cl}_2$ ,  $[\text{HL}]_2$  and  $[\text{H}_2\text{L}]\cdot[\text{Sb}_2\text{Cl}_5]\text{Cl}\cdot\text{MeCN}\cdot\text{H}_2\text{O}$ , 4045

**AOM CALCULATIONS**

Structural, spectroscopic and angular-overlap studies of tripodal pyridine ligands with nickel(II) and zinc(II), 1845

Nickel(II) N<sub>2</sub>O<sub>2</sub> Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437

**ARENE**

Synthesis and characterisation of *pseudocloso* iridium and ruthenium diphenyl carbaboranes. Molecular structures of 1,2- $\text{Ph}_2\text{C}_3-(\eta\text{-C}_6\text{H}_4)\text{C}_3, 1,2\text{-pseudocloso-}\text{RuC}_2\text{B}_3\text{H}_3$  and 1,2- $\text{Ph}_2\text{C}_3-(\text{cym})\text{C}_3, 1,2\text{-pseudocloso-}\text{RuC}_2\text{B}_3\text{H}_3$  (*cym* = *p*-cymene) and individual gauge for localised orbitals calculations on carbametallaboranes, 231

Preparation and characterization of dialkylcarbamato derivatives of niobium and tantalum, 311

Laser-desorption mass spectrometry of  $[\text{Ru}_4\text{C}(\text{CO})_{17}]$  and its derivatives: cluster aggregation in the gas phase, 771

Synthesis and reactivity of arereneruthenium pyranone and pyridinone complexes, 1399

Synthesis, properties, stereochemistry and crystal structures of diastereomeric benzene–ruthenium(II) complexes with a chiral salicylideneaminato ligand, 1499

Prediction of crystal structures, 2077

Arene cluster compounds, 2395

Synthesis of  $\eta$ -arene derivatives of chromium and molybdenum containing Lewis-acid boron substituents, 2467

Mesomorphic ( $\eta$ -arene)tricarbonylchromium complexes, 2533

Molecular dynamics in solid bis( $\eta$ -arene)molybdenum complexes studied by solid-state deuterium nuclear magnetic resonance spectroscopy, 2989

Synthesis and crystal structures of two isomers of  $[\text{Ru}_4(\text{CO})_6(\mu\text{-C}_15\text{H}_{20})]$ , 3833

Kinetics and mechanism of ligand substitution in  $[\text{Cr}(\pi\text{-ligand})(\text{CO})_3]$  complexes (ligand = naphthalene, pyrene, thiophene, 2,6-dimethylpyridine or cycloheptatriene) and of *fac/mer* isomerization in  $[\text{M}(\text{CO})_6\text{L}_3]$  ( $\text{M} = \text{Cr, Mo or W; L} = \text{phosphine, phosphine or isocyanide}$ ), 3959

New class of mixed sandwich cycloheptatrienylichromium complex: crystal structures of the redox pair  $[\text{Cr}(\eta\text{-C}_6\text{H}_5\text{Me})-(\eta\text{-C}_6\text{H}_4\text{C}_6\text{H}_5\text{Me}-4)](\text{PF}_6)^-$  ( $n = 1$  or 2), 4035

Alkaline-earth-metal arenesulfonates as precursors to organic derivatives of Group 2 metals, 4151

The versatile chemistry of arenemanganese carbonyl complexes, 4493

Thermolytic reaction of 1,4-diisopropenylbenzene with  $[\text{Ru}_3(\text{CO})_{12}]$ : an arene ligand as a template for cluster formation, 4621

Synthesis, characterization and molecular structure of two Ru<sub>4</sub> clusters with *p*-alkylstyrene ligands, 4629

**ARSABORANE**

Conformational polymorphism and fluxional behaviour of  $\text{M}(\text{PR}_3)_2$  units in *clos*-twelve-atom metallaheteroboranes with  $\text{MX}_2\text{B}$  ( $\text{X} = \text{C or As}$ ) and  $\text{M}Z\text{B}_{10}$  cages ( $Z = \text{S, Se or Te}$ ), 3323

**ARSENATE**

Crystal structures of  $[\text{NEt}_3]_5[\text{XCo}^{II}\text{W}_{11}\text{O}_{39}] \cdot 3\text{H}_2\text{O}$  ( $\text{X} = \text{P or As}$ ), 2537

**ARSENIC**

Low-co-ordination arsenic and antimony compounds: synthesis and characterisation of 2-arsa- and 2-stiba-1,3-dionatolithium(I) complexes,  $[\text{Li}(\text{OC}(\text{R})\text{EC}(\text{R})\text{O})\text{L}]$  ( $\text{E} = \text{As}$  or  $\text{Sb}$ ;  $\text{R} = \text{Bu}^t$ ,  $\text{C}_6\text{H}_5\text{Pr}^t$ -2,4,6 or  $\text{C}_6\text{H}_5\text{Bu}^t$ -2,4,6;  $\text{L} = \text{Et}_2\text{O}$  or  $\text{MeOCH}_2\text{CH}_2\text{OMe}$ ), 3277

Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes  $\text{MCl}_3\text{L}$  ( $\text{M} = \text{As}$ ,  $\text{Sb}$  or  $\text{Bi}$ ;  $\text{L} = 1,4,7$ -trimethyl-1,4,7-triazacyclononane). Formation and crystal structures of  $[\text{AsCl}_3\text{L}]$ ,  $[\text{As}_2\text{OCl}_3]$ ,  $[\text{H}_2\text{L}]$ ,  $[\text{Sb}_2\text{OCl}_6]\text{Cl}_2$ ,  $[\text{HL}]$  and  $[\text{H}_2\text{L}]_2$ ,  $[\text{Sb}_2\text{Cl}_6]\text{Cl}\cdot\text{MeCN}\cdot\text{H}_2\text{O}$ , 4045

Conformational trends in arsocane dithiophosphinates

$\text{X}(\text{CH}_2\text{CH}_2\text{S})_2\text{AsS}_2\text{PR}_2$  ( $\text{X} = \text{O}$  or  $\text{S}$ ;  $\text{R} = \text{Me}$ ,  $\text{Et}$  or  $\text{Ph}$ ), 4135

**ARSINATE**

The crystal structures of  $[\text{NMe}_4]_2[(\text{Me}_2\text{AsO}_2)\{\text{MoO}(\text{O}_2)_2\}_2]$ ,  $[\text{NMe}_4]_2[(\text{Ph}_2\text{PO}_2)\{\text{MoO}(\text{O}_2)_2\}_2]$ ,  $[\text{NBu}_4]_2[(\text{Ph}_2\text{PO}_2)\{\text{WO}(\text{O}_2)_2\}_2]$  and  $[\text{NH}_3]_2[(\text{Ph}_2\text{PO}_2)\{\text{MoO}(\text{O}_2)_2\}(\text{H}_2\text{O})]$  and their use as catalytic oxidants, 2039

**ARSINE**

Facile one-step synthesis of the cobalt(III) and nickel(III) tertiary arsine complexes  $[\text{M}(\text{I}_3(\text{AsMe}_3))_2]$  ( $\text{M} = \text{Co}$  or  $\text{Ni}$ ) directly from the powdered elemental metals, 157

Reaction of  $\text{R}_3\text{AsI}_2$  ( $\text{R} = \text{Me}$  or  $\text{Et}$ ) with zinc metal powder to produce  $\text{ZnI}_2(\text{AsMe}_3)_2$  and  $[\text{ZnI}_2(\text{AsEt}_3)_2]$ , the first tertiary arsine complexes of zinc(II), 3309

**ARSOCANE**

Conformational trends in arsocane dithiophosphinates

$\text{X}(\text{CH}_2\text{CH}_2\text{S})_2\text{AsS}_2\text{PR}_2$  ( $\text{X} = \text{O}$  or  $\text{S}$ ;  $\text{R} = \text{Me}$ ,  $\text{Et}$  or  $\text{Ph}$ ), 4135

**ARSONIC ACID**

Mechanistic information on ligand-substitution reactions of europium(III) in aqueous solution from high-pressure stopped-flow experiments, 2127

**ARYL**

Chemical and biological reactions of diacetato[2-(dimethylaminomethyl)phenyl]gold(II),  $[\text{Au}(\text{O}_2\text{CMe})_2(\text{dmamp})]$ , 69

Is the fluxional motion of bidentate 2,2'-6,2"-terpyridine in *cis*- $[\text{M}(\text{C}_6\text{F}_5)_2(\text{terpy})]$  ( $\text{M} = \text{Pd}^{II}$  or  $\text{Pt}^{II}$ ) a dissociative process? A comment, 253

Cationic, arylbismuth(III) complexes of the form  $[\text{BiR}_2\text{L}_2]^+$  and  $[\text{BiRL}_4]^+$  where  $\text{L}$  is a neutral two-electron donor ligand, 443

Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(V) diphosphine complexes and related nitridorhenium(V) organometallics; crystal structure of  $[\text{Re}^{\text{V}}\text{N}(\text{C}=\text{CBu}_2)_2(\text{PPh}_3)_2]$ , 1125

Synthesis and structural characterization of organometallic niobium(IV) amido complexes, 1979

Trichloro-, mono-, di- and tri-organotin(IV) derivatives of hydridotris(4-methylpyrazol-1-yl)borates, 2475

Reactivity of diphosphines towards methyl- and phenyl-mercury(II) ions. Crystal structure of  $[\text{Hg}(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2][\text{O}_3\text{SCF}_3]_2$ , 2821

Synthesis and reactivity of aryl- and alkyl-palladium(II) complexes with functional phosphines and phosphinoenolate ligands: first analogues of model nickel catalysts, 2903

Synthesis, photophysics and electrochemistry of  $[\text{Au}_2(\text{dpff})\text{R}_2]$  [ $\text{dpff} = \text{Fe}(\eta\text{-C}_6\text{H}_4\text{PPh}_2)_2$ ;  $\text{R} = \text{alkyl, aryl or alkylnyl}$ ].

Crystal structure of  $[\text{Au}_2(\text{dpff})(\text{C}_6\text{H}_5)_2](\text{C}_6\text{H}_5 = \text{pyren-1-yl})$ , 3411

Phenyl nickel complexes with a chelating P,N ligand. Structures of

$\text{Ph}_3\text{P}-\text{CH}(\text{=NPh})\text{Ph}$  and  $[\text{NiPh}(\text{Ph}_2\text{PCH}(\text{=C}(\text{=NPh})\text{Ph})-\text{Ph}_3\text{P}=\text{CH}(\text{=NPh})\text{Ph}]$ , 3571

Reversible adduct formation between phosphines and triarylboron compounds, 3931

**ARYLOXY**

Small-molecule model phosphazenes with *para*-substituted phenoxy side groups: synthesis, crystal structures and comparisons with corresponding high polymers, 3549

**ASCORBIC ACID**

Kinetics and mechanism of the oxidation of L-ascorbic acid by *cis*-dquaqua cobalt(III) ammine complexes, 1385

Kinetics of oxidation of ascorbate by tetranuclear cobalt(III) complexes ('hexols') in aqueous solution, 1393

Electron-transfer reactions in  $[\text{Ru}(\text{edta})(\text{pyz})]^-$  ( $\text{edta} = \text{ethylene-dinitriethroacetate}$ ,  $\text{pyz} = \text{pyrazine}$ , 4389

**ASYMMETRIC SYNTHESIS**

Asymmetric syntheses, structures and co-ordination chemistry of palladium(II) complexes containing a chiral P,S hybrid bidentate ligand, 4443

**AZABORANE**

Ten-vertex polyhedral monoheteroborane chemistry: syntheses, molecular structures and nuclear magnetic resonance characterisation of some 9-substituted 6-aza- and 6-thia-*arachno*-decaboranes, 1741

**AZAPORPHYRINATE**

Intermediate-spin iron(III) octaethyltetraazaporphyrinates with weakly co-ordinating anions: synthesis, characterisation and crystal structure, 1249

**AZIDE**

Synthesis, magnetic behaviour and structural characterisation of the alternating hexanuclear copper(II) compound  $[\text{Cu}_6(\text{tmien})_6(\mu\text{-N}_3)_2(\mu\text{-C}_2\text{O}_4)_2(\text{H}_2\text{O})_2][\text{ClO}_4]_4\cdot 2\text{H}_2\text{O}$  ( $\text{tmien} = \text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2$ ), 1835

Preparation, characterisation and *ab initio* computation of the first binary antimony azide,  $\text{Sb}(\text{N}_3)_3$ , 2985

Cascade complexation of pseudo-halide by dicopper cryptates: a linear Cu-NNN-Cu unit, 3227

**AZINE**

A new method of creating co-ordinative unsaturation: synthesis and reactions of a reactive iridium(I) complex

$[\text{Ir}(\text{CO})(\text{PPh}_3)\text{CH}_2\text{C}(\text{Bu}')\text{N}-\text{N}=\text{C}(\text{Bu}')\text{CH}_2\text{PPh}_3]_2\text{PF}_6$ : crystal structures of  $[\text{Ir}(\text{CO})(\eta^2\text{-L})\text{PPh}_3\text{CH}_2\text{C}(\text{Bu}')\text{N}-\text{N}=\text{C}(\text{Bu}')\text{CH}_2\text{PPh}_3]_2\text{PF}_6$  ( $\text{L} = \text{MeO}_2\text{CC}\equiv\text{CCO}_2\text{Me}$  or  $\text{COCH}=\text{CHCONMe}$ ), 3111

A bis(cyclopalladated) tetrานuclear derivative of methyl ferrocenyl ketone azine:  $[[\text{Pd}[(\eta^3\text{-C}_5\text{H}_5)\text{Fe}(\eta^3\text{-C}_5\text{H}_5)\text{CMe}=\text{N}]\text{Cl}(\text{PPh}_3)]_2]$ , 3195

**BARBITURATE**

Synthesis and electrospray mass spectrometry of platinum(II) complexes of 5,5-diethylbarbituric acid (Hdebarb); crystal structure of *cis*- $[\text{Pt}(\text{Cl}(\text{debarb})(\text{PPh}_3))_2]\text{CH}_2\text{Cl}_2$ , 1897

**BARBITURIC ACID**

Barbituric acid as a new locking fragment in macrocyclization; synthesis and structural characterisation of aqua(perchlorato)-(2',4',6'-trioxohexahydropyrimidine-5'-spiro-6-1,4,8,11-tetraazacyclopentadecane)copper(II) perchlorate hydrate, 2017

**BARIUM**

Unexpected ring contraction in the barium-assisted cyclocondensation of 2,6-diformylpyridine and *N,N*-bis(2-aminoethyl)-2-phenylethylenone, 1181

**BENZAMIDINATE**

Unexpected reactions of pentafluorophenyl boron compounds with  $\eta$ -cyclopentadienyl(benzamidinato)zirconium derivatives, 939

**BENZIMIDAZOLE**

Synthesis and crystal structures of some bis-benzimidazoles, -benzothiazoles and -benzoxazoles by an alternative route: their complexation with copper(II) salts, 1531

Synthesis, characterisation and superoxide dismutase activity of a manganese(II) complex, 2019

Synthesis, structure, spectra and redox chemistry of iron(III) complexes of tridentate pyridyl and benzimidazolyl ligands, 2519

**BENZOTHIAZINE**

Synthesis, crystal structure and molecular orbital investigation of the first platinum complex of piroxicam, 111

**BENZOTHIAZOLE**

Synthesis and crystal structures of some bis-benzimidazoles, -benzothiazoles and -benzoxazoles by an alternative route: their complexation with copper(II) salts, 1531

**BENZOXAZOLINE**

Role of bifunctional N/S bridging in the association of metals; syntheses and structures of heterobimetallic  $[(\text{Ph}_3\text{P})\text{CuL}_2\text{Li}(\text{thf})_2]$ -thf and tetrmeric  $[(\text{CuL}(\text{PPh}_3)_4)]$  ( $\text{L} = 1,3\text{-benzoxazoline-2-thionate}$ , thf = tetrahydrofuran), 3793

**BENZYLIDYNE**

Photoluminescence, photoredox properties and crystal structures of rhenum(V)-benzylidyne complexes with phosphine ligands, 2827

**BICYCLOAZASTANNOXIDE**

Thermodynamic  $\alpha\text{-CH}$  acidities of amino acid fragments in five-coordinate bicycloazastannoxides in  $\text{Me}_2\text{SO}$ , 3889

**BIFFEROCENIUM**

Phase transition in triiodide salts of binuclear ferrocene derivatives having long alkyl chains accompanied by a change in mixed-valence state, 139

**BILADIENE**

Syntheses, characterisation and structural chemistry of biladien-*ac*-10-one and *-bc*-5-one metal complexes with 4N or (3N + O) coordination, 3937

**BINAPHTHALENE**

Preparation and reactivities of chiral manganese(III) and copper(II) complexes of binaphthyl Schiff bases, 405

Synthesis and characterisation of rhodium complexes containing atropisomeric sulfur ligands. Structure of  $[(\text{Rh}:(\mu\text{-L})(\text{CO})_2[\text{P}(\text{OC}_6\text{H}_4\text{Bu}'_2)_2])_2]$  ( $\text{H}_2\text{L} = 1,1'\text{-binaphthalene-2,2'-dithiol}$ ), 969

Dilithium diamides  $[(\text{Li}(\text{OC}_4\text{H}_8)_2)_2\text{C}_{20}\text{H}_{12}(\text{NR})_2]$  ( $\text{R} = \text{SiMe}_3$  or  $\text{CH}_2\text{Bu}'$ ) derived from *R*, *S*, *R,S*-2,2'-diamino-1,1'-binaphthyl derivatives, 3595

(*R*)- and (*S*)-2-Diphenylphosphinoyl-2'-hydroxy-1,1'-binaphthalene: versatile chiral bidentate ligands, 4449

**BIOINORGANIC CHEMISTRY**

Chemical and biological reactions of diacetato[2-(dimethylamino-methyl)phenyl]gold(III),  $[\text{Au}(\text{O}_2\text{CMe})_2(\text{dmamp})]$ , 69

Kinetic studies of the reaction of hydrogen peroxide with manganese-reconstituted horseradish peroxidase, 1059

**BIOINORGANIC CHEMISTRY (contd)**

Kinetic studies on the redox reactions of *Clostridium pasteurianum* rubredoxin, 2219  
 The interaction between cytochrome c and *trans*-[PtCl<sub>2</sub>(NH<sub>3</sub>)<sub>2</sub>], 2223  
 8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391  
 Stabilization of monofunctional platinum-nucleotide adducts: reactions of *N*-acetyl-L-methionine complexes with guanosine 5'-monophosphate and guanylyl(3'-5')guanosine, 2867  
 Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087  
 Copper(II) complexes with cyclo(L-aspartyl-L-aspartyl) and cyclo(L-glutamyl-L-glutamyl) derivatives and their antioxidant properties, 3093  
 Electron self-exchange and cross-reaction studies on wild-type *Clostridium pasteurianum* rubredoxin and its Val-8→Glu variant, 4287

**BIOIMIMETIC**  
 Synthesis, characterisation and superoxide dismutase activity of a manganese(II) complex, 2019  
 Syntheses and characterization of novel tri- and hexa-nuclear zinc complexes with biomimetic chelate ligands, 3731

**BIOORGANOMETALLIC CHEMISTRY**  
 Synthesis and reactivity of arereneruthenium pyranone and pyridinone complexes, 1399

**BIPHENYL**  
 Novel amphiphilic diphosphines: synthesis, rhodium complexes, use in hydroformylation and rhodium recycling, 2143  
 Zinc(II) complexes of putative obligate tetrahedrally co-ordinating pro-ligands, 2835  
 Mixed phosphito-phosphonato rhodium(I) complexes, 4357

**BIPYRIDINE**  
 Nuclear magnetic resonance studies of molecular dynamics at below-ambient temperatures and crystal structures, 203  
 Diiiron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties, 321  
 Electrochemical and spectroelectrochemical studies on platinum complexes containing 2,2'-bipyridine, 329  
 Kinetics of ternary complex formation with the (nitrilotriacetato)-zinc(II) complex: the effect of buffers and pH, 867  
 Mono- and di-nuclear ruthenium(II) complexes of the ambidentate ligand 3,3'-dihydroxy-2,2'-bipyridine: spectroscopic, electrochemical and mixed-valence properties, 879  
 Synthesis of the new binucleating compound pyrazin-2-yl 2-pyridyl sulfide for stepwise or direct approach to asymmetric binuclear ruthenium(II) complexes, 885  
 New atropisomeric bidentate nitrogen-donor compounds as potential stereocontrollers in mild CO-styrene copolymerisation catalysed by palladium(II) salts, 1021  
 Efficient and selective up-hill transport of anions by pH-induced affinity switching of a copper complex carrier, 1367  
 Control of the co-ordination mode of 1,8-naphthyridine ligated to ruthenium(II) bipyridine complexes, 1405  
 Photoluminescent cyclometallated diplatinum(II, II) complexes: photophysical properties and crystal structures of [PtL(PPh<sub>3</sub>)ClO<sub>4</sub>] and [Pt<sub>2</sub>L<sub>2</sub>(μ-dppm)]ClO<sub>4</sub><sub>2</sub> (HL = 6-phenyl-2,2'-bipyridine, dppm = Ph<sub>3</sub>PCH<sub>2</sub>PPh<sub>3</sub>), 1645  
 Cationic platinum(II) complexes: platinum-alkyl bond cleavage by a powerful Lewis acid, 1809  
 Reactions of [Ru(bipy)(CO)<sub>2</sub>Cl<sub>2</sub>] in aqueous HX and HX-HNO<sub>3</sub> solutions (X = F, Br or I; bipy = 2,2'-bipyridine), 1927  
 Discrete dinuclear and polymeric copper(I) cations bridged by 4,4'-bipyridine, *trans*-1,2-bis(4-pyridyl)ethene or bis(4-pyridyl) disulfide, 1947  
 Novel amphiphilic diphosphines: synthesis, rhodium complexes, use in hydroformylation and rhodium recycling, 2143  
 Spectral and electrochemical recognition of halide anions by acyclic mononuclear ruthenium(II) bipyridyl receptor molecules, 2341  
 Diiiron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties (1996, 321), 2394  
 Electrosynthesis and co-ordination chemistry of polymer films coated on electrode surfaces from pyrrole polypyridyls, 2503  
 Dinuclear alkoxide-bridged ruthenium(II) complexes with Class III mixed-valence states: a structural and spectroelectrochemical study, 2527  
 Mode of formation of polymeric [{Ru(bipy)(CO)<sub>2</sub>}<sub>n</sub>] (bipy = 2,2'-bipyridine) films, 2581  
*Ab initio* X-ray powder diffraction structural characterization of co-ordination compounds: polymeric [{MX<sub>2</sub>(bipy)}<sub>n</sub>] complexes (M = Ni or Cu; X = Cl or Br; bipy = 4,4'-bipyridyl), 2739  
 Synthesis and characterization of zinc(II) oxydiacetate (oda) complexes. Crystal structures of [{Zn(oda)-0.3H<sub>2</sub>O}<sub>n</sub>],

[Zn(oda)(bipy)(H<sub>2</sub>O)]·2.5H<sub>2</sub>O and [Zn(oda)(phen)(H<sub>2</sub>O)]·1.5H<sub>2</sub>O (bipy = 2,2'-bipyridine, phen = 1,10-phenanthroline), 2747  
 Important role of CH-π interaction in linkage isomers of bis(2,2'-bipyridine)ruthenium(II) complexes with pyrimidine-2-thione and related ligands, 2851  
 Dinuclear palladium(I) complexes with isocyanide and N-donor bidentate ligands, 3059  
 Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrogen ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and olefins, 3139  
 Synthesis, crystal structure and redox properties of μ-oxo-bis(μ-acetoato)diruthenium(III) complexes having 2,2'-bipyridine and imidazole bases as terminal ligands, 3289  
 Structurally diverse copper(II) herbicide complexes: mono- and bi-nuclear neutral or cationic complexes, 3737  
 On the design of high co-ordination number metal-based liquid crystals: mesomorphic bipyridine complexes of rhodium(I), 3913  
 Synthesis, structure and characterisation of [Ni(bipy)<sub>3</sub>][NaAl(ox)<sub>3</sub>] (bipy = 2,2'-bipyridine, ox = oxalate), 3985  
 Amide nitrogen co-ordination of Co<sup>II</sup> and Ni<sup>II</sup> in ternary 2,2'-bipyridine-containing systems. A solution and solid-state study, 4201  
 Synthesis and characterization of gold(III) adducts and cyclometallated derivatives with 6-benzyl- and 6-alkyl-2,2'-bipyridines, 4217  
 Nitrate- and nitrite-ligated 3,0-bis(imidazolyl)pyridazine-bridged dinuclear copper(II) cations with copper-copper separations similar to that in *Achromobacter cycloclastes* nitrite reductase, 4295

**BIQUINOLINE**  
 Dinuclear palladium(I) complexes with isocyanide and N-donor bidentate ligands, 3059

**BISMUTH**  
 Cationic, arylbismuth(III) complexes of the form [BiR<sub>2</sub>L]<sup>+</sup> and [BiR<sub>2</sub>L]<sup>2+</sup> where L is a neutral two-electron donor ligand, 443  
 Cationic, four-co-ordinate, bis(organotransition metal)bismuth(III) complexes, 455  
 Phosphorus donor complexes of bismuth(III). Structural characterisation of [Bi<sub>2</sub>Cl<sub>6</sub>(Ph<sub>3</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>3</sub>)<sub>2</sub>], [Bi<sub>2</sub>Cl<sub>6</sub>(Ph<sub>3</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>3</sub>)<sub>3</sub>] and [Bi<sub>2</sub>Cl<sub>6</sub>(Ph<sub>3</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>3</sub>)<sub>4</sub>], 1063  
 Synthesis, characterization and crystal structures of bismuth(III) complexes with triethylenetetraaminehexaacetic acid and *trans*-cyclohexane-1,2-diaminetetraacetic acid, 2023  
 Solid-state carbon-13 nuclear magnetic resonance investigations of bismuth citrate complexes and crystal structure of Na<sub>2</sub>[Bi<sub>2</sub>(cit)<sub>3</sub>]·7H<sub>2</sub>O, 2417  
 Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes MCl<sub>4</sub>L (M = As, Sb or Bi; L = 1,4,7-trimethyl-1,4,7-triazaacyclononane). Formation and crystal structures of [AsCl<sub>4</sub>L][As<sub>2</sub>OCl<sub>4</sub>]<sub>2</sub>, [H<sub>4</sub>L]<sub>2</sub>[Sb<sub>2</sub>OCl<sub>6</sub>]<sub>2</sub>, [HL]<sub>2</sub> and [H<sub>4</sub>L]<sub>2</sub>[Sb<sub>2</sub>Cl<sub>6</sub>]Cl·MeCN·H<sub>2</sub>O, 4045  
 Novel structural forms for imidoamides and oxoalkoxides of bismuth, 4159

**BOND ACTIVATION**  
 Carbon-fluorine and -hydrogen bond activation and carbon-carbon bond formation in η<sup>5</sup>-pentamethylcyclopentadienyl-rhodium and -iridium phosphine complexes; crystal structures of [M(η<sup>5</sup>-C<sub>5</sub>Me<sub>5</sub>)Cl(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>P(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>]<sup>+</sup>BF<sub>4</sub><sup>-</sup> (M = Rh or Ir), 3215  
 Activation of the N–H bond of ethyl carbamate and urea by ruthenium hydride complexes. Unexpected loss of alcohol or ammonia to yield isocyanato complexes, 3221  
 Synthesis and characterization of gold(III) adducts and cyclometallated derivatives with 6-benzyl- and 6-alkyl-2,2'-bipyridines, 4217

**BOND CLEAVAGE**  
 Cationic platinum(II) complexes: platinum-alkyl bond cleavage by a powerful Lewis acid, 1809  
 Reactions of di- and tri-nuclear palladium and platinum isocyanide complexes with highly basic and bulky aromatic phosphines containing methoxy groups at the 2 and 6 positions, 1815

**BORANE**  
 Ten-vertex polyhedral monoheteroborane chemistry: syntheses, molecular structures and nuclear magnetic resonance characterization of some 9-substituted 6-aza- and 6-thia-*arachno-decarboranes*, 1741  
 Macropolyhedral boron-containing cluster chemistry. *syn*- and *anti*-[(C<sub>5</sub>Me<sub>5</sub>)<sub>2</sub>Rh<sub>2</sub>S<sub>2</sub>B<sub>15</sub>H<sub>14</sub>(OH)<sub>2</sub>]; an interesting nineteen-vertex isomeric pair, 1775  
 Silver complexes with the *nido*-diphosphine [7,8-(PPh<sub>2</sub>)<sub>2</sub>7,8-C<sub>2</sub>B<sub>10</sub>H<sub>10</sub>]<sup>-</sup>, 4583  
 Tetraborane(10), B<sub>4</sub>H<sub>10</sub>: structures in gaseous and crystalline phases, 4589

**BORATE**  
 Selectivity design using interligand contact: solvent extraction and structures of first-series-transition metal-bis(pyrazol-1-yl)borate complexes, 195

**BORATE** (contd)

Heteroleptic poly(pyrazolyl)borate derivatives of the lanthanides. Structural and electronic spectral studies of some salicylaldehyde complexes, 501  
 Characterisation of a cationic triniobium aqua ion cluster and related studies, 703  
 Unexpected reactions of pentafluorophenyl boron compounds with  $\eta^2$ -cyclopentadienyl(benzamidinato)zirconium derivatives, 939  
 Trichloro-, mono-, di- and tri-organo-tin(IV) derivatives of hydridotris(4-methylpyrazol-1-yl)borates, 2475  
 Reactivity studies of  $\eta^2$ -acyl complexes of molybdenum. Kinetics of  $\eta^2$ -acyl to  $\eta^2$ -iminoacyl isomerization in their reactions with isocyanides, 3687  
 Ruthenium tris(pyrazolyl)borate complexes. Formation and characterization of acetone, dimethylformamide and vinylidene complexes containing N,N-donor co-ligands, 4071  
 Some new dipyridyl and diphenol bridging ligands containing oligothienyl spacers, and their dinuclear molybdenum complexes: electrochemical, spectroscopic and luminescence properties, 4257  
 Models of the active sites of zinc-containing enzymes: the structure of acetoato[hydrotris(3-tert-butyl-5-methylpyrazol-1-yl)borato]-zinc(II), 4283  
 Syntheses and electrochemistry of bimetallic complexes containing cyclohexanediolate or cyclopentanediolate bridges, 4401

**BORIDE**

Cluster core geometrical variation in heterometallic boride clusters containing RhRu<sub>4</sub> skeletons: crystal structures of [RhRu<sub>4</sub>H<sub>2</sub>( $\eta^2$ -C<sub>5</sub>Me<sub>5</sub>)( $\mu$ -Cl)(CO)<sub>12</sub>B] and [RhRu<sub>4</sub>H(nbd)(CO)<sub>12</sub>B(AuPPh<sub>3</sub>)], (nbd = norbornadiene), 603

**BORANE**

Camphor-based  $\beta$ -hydroxyphosphoryl ligands and their complexes of the type [MoO(O<sub>2</sub>)<sub>2</sub>L(H<sub>2</sub>O)], 4149

**BORON**

Synthesis and characterisation of *pseudoccloso* iridium and ruthenium diphenyl carbaboranes. Molecular structures of 1,2-Ph<sub>2</sub>-3-( $\eta$ -C<sub>6</sub>H<sub>5</sub>)-3,1,2-*pseudoccloso*-RuC<sub>2</sub>B<sub>9</sub>H<sub>9</sub> and 1,2-Ph<sub>2</sub>-3-(cym)-3,1,2-*pseudoccloso*-RuC<sub>2</sub>B<sub>9</sub>H<sub>9</sub> (*cym* = *p*-cymene) and individual gauge for localised orbital calculations on carbametallaboranes, 231  
 Synthesis, characterisation and molecular structures of the *closo* and *pseudoccloso* heptamethylindenyl carborhadaboranes 1-Ph-3-( $\eta$ -C<sub>9</sub>Me<sub>7</sub>)-3,1,2-*closo*-RhC<sub>2</sub>B<sub>9</sub>H<sub>10</sub> and 1,2-Ph<sub>2</sub>-3-( $\eta$ -C<sub>9</sub>Me<sub>7</sub>)-3,1,2-*pseudoccloso*-RuC<sub>2</sub>B<sub>9</sub>H<sub>9</sub>. Experimental assignment of the <sup>11</sup>B NMR spectrum of a *pseudoccloso* carbametallaborane, 335

Cluster core geometrical variation in heterometallic boride clusters containing RhRu<sub>4</sub> skeletons: crystal structures of [RhRu<sub>4</sub>H<sub>2</sub>( $\eta^2$ -C<sub>5</sub>Me<sub>5</sub>)( $\mu$ -Cl)(CO)<sub>12</sub>B] and [RhRu<sub>4</sub>H(nbd)(CO)<sub>12</sub>B(AuPPh<sub>3</sub>)], (nbd = norbornadiene), 603

Unexpected reactions of pentafluorophenyl boron compounds with  $\eta^2$ -cyclopentadienyl(benzamidinato)zirconium derivatives, 939

Ten-vertex polyhedral monoheteroborane chemistry: syntheses, molecular structures and nuclear magnetic resonance characterization of some 9-substituted 6-aza- and 6-thia-*arachnoderobanes*, 1741

Macropolyhedral boron-containing cluster chemistry. *syn*- and *anti*-[(C<sub>5</sub>Me<sub>5</sub>)<sub>2</sub>Rh<sub>2</sub>S<sub>2</sub>B<sub>12</sub>H<sub>14</sub>(OH)], an interesting nineteen-vertex isomeric pair, 1775

Synthesis of  $\eta$ -arene derivatives of chromium and molybdenum containing Lewis-acid boron substituents, 2467

Reactions of [RhRu<sub>4</sub>H( $\eta^2$ -C<sub>9</sub>Me<sub>7</sub>)(CO)<sub>8</sub>] with didentate phosphines and the synthesis and crystal structure of [RhRu<sub>4</sub>H<sub>2</sub>( $\eta^2$ -C<sub>9</sub>Me<sub>7</sub>)(CO)<sub>8</sub>( $\mu$ -ddppf-P,P)AuB] [ddpf = 1,1'-bis(diphenylphosphino)ferrrocene], 2917

Macropolyhedral boron-containing cluster chemistry. Isolation and characterisation of the eighteen-vertex *nido*-5'-iridaocaborane-[3'.8':1.2]-*closo*-4-iridadodecarobane, [(CO)(PM<sub>3</sub>)<sub>2</sub>]IrB<sub>12</sub>H<sub>14</sub>Ir-(CO)(PM<sub>3</sub>)<sub>2</sub>], 3145

Conformational polymorphism and fluxional behaviour of M(PR<sub>3</sub>)<sub>2</sub> units in *closo*-twelve-atom metalla-heteroboranes with MX<sub>2</sub>B<sub>9</sub> (X = C or As) and MZB<sub>10</sub> cages (Z = S, Se or Te), 3323

Macropolyhedral boron-containing cluster chemistry. An X-ray diffraction and nuclear magnetic resonance study of the double cluster 11-vertex : 11-vertex tetracarbaborane C<sub>4</sub>B<sub>10</sub>H<sub>22</sub>, 3813

Reactions of carbon disulfide with open *nido*-6-iridadecaboranes. The formation of closed ten-vertex cluster compounds with boron-to-metal dithioformate bridges and a novel *isoccloso* — *closo* cluster conversion, 3819

Reversible adduct formation between phosphines and triarylboron compounds, 3931

Macropolyhedral boron-containing cluster chemistry: nineteen-vertex [(PPh<sub>3</sub>)NiS<sub>2</sub>B<sub>10</sub>H<sub>12</sub>(PPh<sub>3</sub>)] and eighteen-vertex S<sub>2</sub>B<sub>16</sub>H<sub>14</sub>(PPh<sub>3</sub>), 4155

Tetraborane(10), B<sub>4</sub>H<sub>10</sub>: structures in gaseous and crystalline phases, 4589

**BORON-II**

Synthesis, characterisation and molecular structures of the *closo* and *pseudoccloso* heptamethylindenyl carborhadaboranes 1-Ph-3-( $\eta$ -C<sub>9</sub>Me<sub>7</sub>)-3,1,2-*closo*-RhC<sub>2</sub>B<sub>9</sub>H<sub>10</sub> and 1,2-Ph<sub>2</sub>-3-( $\eta$ -C<sub>9</sub>Me<sub>7</sub>)-3,1,2-*pseudoccloso*-RhC<sub>2</sub>B<sub>9</sub>H<sub>9</sub>. Experimental assignment of the <sup>11</sup>B NMR spectrum of a *pseudoccloso* carbametallaborane, 335

**BRIDGE CLEAVAGE**

Kinetic and thermodynamic studies of intramolecular rearrangement and cleavage of the heterobinuclear aqua ion, [(H<sub>2</sub>O)<sub>2</sub>Rh( $\mu$ -OH)<sub>2</sub>Cr(OH)<sub>2</sub>A]<sup>+</sup>, 1051

**BROMIDE**

Synthesis and isolation of two high-nuclearity manganese(II) imido compounds: structural characterisation of a compound containing a [Mn<sub>6</sub>( $\mu$ <sub>3-NPh)<sub>4</sub>]<sup>4+</sup> core, 4613</sub>

**BUTADIENYL**

Synthesis structure and reactivity of  $\eta^4$ (Se)-butadienyl substituted molybdenum complexes, 4517

**CADMIUM**

Cadmium-113 nuclear magnetic resonance studies of cadmium(II)-carboxylate complexes in aqueous solution, 75

A halide-free route to Groups 12 and 13 organometallic and metallo-organic complexes, 133

Selenium insertion into a cadmium-carbon bond: synthesis and structural characterisation of the loosely linked dimer [(Cd(SeC≡CPh)(tmnen))<sub>2</sub>] (tmnen = Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>), 2183

Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on M<sub>2</sub>(OPr)<sub>6</sub><sup>-</sup> (M = Sn, Zr or Ti) anions: crystal and molecular structures of [CdI(Sn<sub>2</sub>(OPr)<sub>6</sub>)<sub>2</sub>] and [SnI(Zr(OPr)<sub>6</sub>)<sub>2</sub>], 2485

Novel dithio- and diseleno-carbamates of zinc and cadmium as single-molecule precursors for low-pressure metal-organic chemical vapour deposition, 2491

Complexation of lop-sided 16- and 17-membered tetraaza macrocycles containing fused dibenzo substituents with zinc(II) and cadmium(II), 3039

Layered, network and chain structures of cadmium(II) malonate: crystal structure and cadmium-113 nuclear magnetic resonance studies, 3363

**CADMIUM-113**

Cadmium-113 nuclear magnetic resonance studies of cadmium(II)-carboxylate complexes in aqueous solution, 75

Layered, network and chain structures of cadmium(II) malonate: crystal structure and cadmium-113 nuclear magnetic resonance studies, 3363

**CAGE**

Build-up of an Al<sub>4</sub>P<sub>6</sub>Li<sub>4</sub> cage from an Al<sub>4</sub>N<sub>4</sub> cubane: synthesis and structure of [Li(OC<sub>4</sub>H<sub>9</sub>)<sub>4</sub>[(AlMe)[ $\mu$ -P(C<sub>6</sub>H<sub>11</sub>)<sub>2</sub>]<sub>2</sub>[ $\mu$ -P(C<sub>6</sub>H<sub>11</sub>)<sub>2</sub>]<sub>2</sub>C<sub>6</sub>H<sub>5</sub>Me], 4153

**CALCIUM**

Synthesis, structure and characterisation of magnesium and calcium  $\beta$ -diketonate complexes [Ca<sub>2</sub>(tmhd)<sub>2</sub>] and [Ca<sub>2</sub>(tmhd)<sub>2</sub>(EtOH)<sub>2</sub>] (Htmhd = 2,2,6,6-tetramethylheptane-3,5-dione), 2435

**CALIXARENE**

Transition-metal complexation by calix[4]arene-derived phosphinites, 513

Rare-earth-metal solvent extraction with calixarene phosphates, 1687

Entrapment of a Pt-H bond by a cavity-shaped receptor, 4041

**CAMPHOR**

Camphor-based  $\beta$ -hydroxyphosphoryl ligands and their complexes of the type [MoO(O<sub>2</sub>)<sub>2</sub>L(H<sub>2</sub>O)], 4149

**CARBABORANE**

Synthesis and characterisation of *pseudoccloso* iridium and ruthenium diphenyl carbaboranes. Molecular structures of 1,2-Ph<sub>2</sub>-3-( $\eta$ -C<sub>6</sub>H<sub>5</sub>)-3,1,2-*pseudoccloso*-RuC<sub>2</sub>B<sub>9</sub>H<sub>9</sub> (*cym* = *p*-cymene) and individual gauge for localised orbital calculations on carbametallaboranes, 231

Synthesis, characterisation and molecular structures of the *closo* and *pseudoccloso* heptamethylindenyl carborhadaboranes 1-Ph-3-( $\eta$ -C<sub>9</sub>Me<sub>7</sub>)-3,1,2-*closo*-RhC<sub>2</sub>B<sub>9</sub>H<sub>10</sub> and 1,2-Ph<sub>2</sub>-3-( $\eta$ -C<sub>9</sub>Me<sub>7</sub>)-3,1,2-*pseudoccloso*-RhC<sub>2</sub>B<sub>9</sub>H<sub>9</sub>. Experimental assignment of the <sup>11</sup>B NMR spectrum of a *pseudoccloso* carbametallaborane, 335

Macropolyhedral boron-containing cluster chemistry. An X-ray diffraction and nuclear magnetic resonance study of the double cluster 11-vertex : 11-vertex tetracarbaborane C<sub>4</sub>B<sub>10</sub>H<sub>22</sub>, 3813

Silver complexes with the *nido*-diphosphine [7,8-(PPh<sub>3</sub>)<sub>2</sub>]C<sub>2</sub>B<sub>9</sub>H<sub>10</sub><sup>-</sup>, 4583

**CARBALDEHYDE**

Synthesis, structure and characterisation of amido derivatives of [9]aneN<sub>3</sub> (1,4,7-triazacyclonane), 31

Unexpected ring contraction in the barium-assisted cyclocondensation of 2,6-diformylpyridine and *N,N*-bis(2-aminoethyl)-2-phenylethylamine, 1181

Unusual 9-vertex carbene complex of manganese with carbonyliron dianions to form a novel dimetal carbene-bridged complex [MnFe{ $\mu$ -C(COEt)Ph}( $\eta$ -C<sub>5</sub>H<sub>5</sub>)(CO)<sub>2</sub>]<sup>+</sup>, 1443

**CARBAMATE**

Dinuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227

Activation of the N-H bond of ethyl carbamate and urea by ruthenium hydride complexes. Unexpected loss of alcohol or ammonia to yield isocyanato complexes, 3221

**CARBANION**

Thermodynamic  $\alpha$ -CH acidities of amino acid fragments in five-coordinate bicycloazastannoxides in  $\text{Me}_2\text{SO}$ , 3889

**CARBENE**

Synthesis of alkynyl, cyclic carbene and vinylidene osmium(II) complexes: first indenyl half-sandwich osmium(II) complexes, 2547

Cyclic oxacarbene complexes of the cycloheptatrienylmolybdenum auxiliary  $\text{Mo}_{12}(\eta\text{-C}_7\text{H}_7)$ , L = CO or P-donor ligand: isolation and subsequent cyclisation of a hydroxymethylidene intermediate, 3893

Preparation and characterization of carbene complexes of iron from azolyl and thiolen precursors, 4431

**CARBIDE**

Removing a second mercury atom from  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{2-}$ : synthesis of  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{4-}$  and crystal structure of  $[\text{PPPh}_3]^+$ ,  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]$ , 597

Laser-desorption mass spectrometry of  $[\text{Ru}_6\text{C}(\text{CO})_{17}]$  and its derivatives: cluster aggregation in the gas phase, 771

Synthesis, characterisation, molecular and crystal structures of two novel osmium-palladium carbide carbonyl clusters, 2887

Difunctionalised arene  $\text{Ru}_6\text{C}$  cluster compounds with electron-withdrawing groups, 3837

Synthesis and characterisation of the chloride-bridged copper-ruthenium cluster dianion  $[\{\text{Ru}_6\text{Cu}_2\text{C}(\text{CO})_{16}\}_2\text{Cl}_2]^{2-}$ , 4033

**CARBOHYDRATE**

Comparative study of oxidation by chromium(V) and chromium(VI), 1607

Chelate-stabilized alkoxopalladium(II) complexes with chiral phosphine-substituted carbohydrate ligands, 2911

Synthesis, characterization and crystal structure of cyclic vanadate complexes with monosaccharide derivatives having a free adjacent diol system, 3257

**CARBON**

Metal-containing carbon clusters, 567

**CARBON-13**

Second-order paramagnetic rhodium(III) complexes: solid-state structure and assignment of the carbon-13 magnetic resonance spectra in solution, 4563

**CARBONATE**

Structure of the double salt  $[\text{Co}^{\text{II}}(\text{Cl})\text{L}^3]^+\text{Cl}^- \cdot [\text{Co}^{\text{III}}(\text{CO})\text{L}^3]^+\text{Cl}^-$  ( $\text{L}^3 = (2R,5R,8R,11R)-1,7\text{-dibenzyl-2,5,8,11-tetraethyl-1,4,7,10-tetraazacyclododecane}$ ) and related species, 45

Vanadium chloride and chloride oxide complexes in an ambient-temperature ionic liquid. The first use of bis(trichloromethyl) carbonate as a substitute for phosgene in an inorganic system, 2787

Studies on the thermal decomposition of basic lead(II) carbonate by Fourier-transform Raman spectroscopy, X-ray diffraction and thermal analysis, 3639

**CARBON DISULFIDE**

Reactions of carbon disulfide with open *nido*-6-iridacaboranes. The formation of closed ten-vertex cluster compounds with boron-to-metal dithioformate bridges and a novel *isocloso* — *closو* cluster conversion, 3819

**CARBON MONOXIDE**

Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrogen ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and olefins, 3139

Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527

**CARBONOHYDRAZONE**

Chelating behaviour of methyl 2-pyridyl ketone carbono- and thiocarbono-hydrazones in copper(II) and zinc(II) complexes, 2699

**CARBONYL**

Reactions of the unsaturated alkyne cluster  $[\text{Os}_3(\text{CO})_7(\mu_3-\eta^2(\perp-\text{PhC}_6\text{Ph}))\text{dpmm}]$  with P-donors; crystal structures of  $[\text{Os}_3(\text{CO})_7(\text{PhC}_6\text{Ph})(\text{dpmm})\{\text{P}(\text{OMe})_3\}]$  and two isomers of  $[\text{Os}_3(\text{CO})_7(\text{PhC}_6\text{Ph})(\text{dpmm})\{\text{PBu}_3\}]$  ( $\text{dpmm} = \text{Ph}_2\text{P}(\text{CH}_3)_2\text{PPh}_2$ ), 117

Removing a second mercury atom from  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{2-}$ : synthesis of  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{4-}$  and crystal structure of  $[\text{PPPh}_3]^+$ ,  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]$ , 597

Cluster core geometrical variation in heterometallic boride clusters containing RhRu<sub>4</sub> skeletons: crystal structures of  $[\text{RhRu}_4\text{H}_2(\eta^5\text{C}_5\text{Me}_5)(\mu\text{-C})(\text{CO})_2\text{B}]$  and  $[\text{RhRu}_4\text{H}(\text{nbd})(\text{CO})_2\text{B}(\text{AuPPh}_3)]$  ( $\text{nbd} = \text{norbornadiene}$ ), 603

Multinuclear solid-state nuclear magnetic resonance studies on transition-metal clusters containing hydrides, 625

Dynamic disorder in crystalline  $[\text{Fe}_2\text{Os}(\text{CO})_{12}]$  and direct evidence for rotation of the Fe<sub>2</sub>Os triangle in the solid state from variable-temperature X-ray diffraction and  $^{13}\text{C}$  MAS NMR studies, 631

Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dpmp})(\text{CO})_{12}]$  ( $\text{M} = \text{M}' = \text{Cu, Ag or Au}; \text{M}' = \text{Cu, M}' = \text{Au}; \text{dpmp} = \text{Fe}(\eta^5\text{C}_5\text{H}_5\text{PPh}_3)_2$ ) and the crystal structures of  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dpmp})(\text{CO})_{12}]$  ( $\text{M} = \text{Cu or Au, M}' = \text{Au}$ ), 643

Syntheses and structural characterisation of  $[\text{Ir}_4(\text{CO})_{11}(\eta^1\text{-L})]$  and  $[\text{Ir}_4(\text{CO})_{10}(\eta^1\text{-L}')]^+$  ( $\text{L} = [\text{Fe}(\eta^5\text{C}_5\text{H}_5)\text{P}(\text{OMe})_3]^+$  and  $[\text{Fe}(\eta^5\text{C}_5\text{H}_5)\text{P}(\text{OMe})_3]^+$ ) and  $[\text{Ir}_4(\text{CO})_{11}(\mu-\eta^1\text{-L}^-\text{Fe}(\eta^5\text{C}_5\text{H}_5)\text{P}(\text{OMe})_3)]^+$  ( $\text{L}' = [\text{Fe}(\eta^5\text{C}_5\text{H}_5)\text{P}(\text{OMe})_3]^+$ ) and its facile conversion to  $[\text{Ir}_4(\text{H})(\text{CO})_{10}[\text{Fe}(\eta^5\text{C}_5\text{H}_5)\text{P}(\text{OMe})_3]\text{C}(\text{CMe}_2\text{CH}_2)\text{CBu}^+]\text{Ir}_4(\text{CO})_{11}$ , via an unusual C-H activation, 739

Characterization, redox properties and structures of the iron nitridocarbonyl clusters  $[\text{Fe}_6\text{N}(\text{CO})_{11}(\text{PPh}_3\text{C}_6\text{H}_5\text{N}_3)]^+$  and  $[\text{Fe}_6\text{N}(\text{CO})_{11}]^+$  and  $[\text{Fe}_6\text{H}(\text{N})(\text{CO})_{11}]^+$ , 747

Systematic synthesis of substituted hexanuclear phosphido- and phosphinidene-bridged osmium clusters, 755

Laser-desorption mass spectrometry of  $[\text{Ru}_6\text{C}(\text{CO})_{17}]$  and its derivatives: cluster aggregation in the gas phase, 771

Mercury-osmium carbonyl clusters resulting from facile Hg-C bond cleavage: reactions of  $[\text{Os}_3\text{H}_2(\text{CO})_{10}]$  with  $[\text{Hg}(\text{C}\equiv\text{CPH})_2]$  and  $[\text{RHg}(\text{C}\equiv\text{CH})_2]$  ( $\text{R} = \text{Ph, Me or Et}$ ), 899

Linking and fragmentation of alkynes at a triruthenium centre, 975

Oxidation behaviour of the unsaturated diruthenium species  $[\text{Ru}_2(\mu_4\text{-CO})_2\text{C}(\text{CO})_2\mu(\text{PrO})_2\text{PNEtP(OPr)}_2]_2$ , 1031

Linking metal centres with 1,4-bis(diphenylphosphino)-2,5-difluorobenzene (dpfb): syntheses and molecular structures of  $[\{\text{Mo}(\text{CO})_4\}(\mu\text{-dpfb})_2]$  and  $[\{\text{Mo}(\text{CO})_4\}_2(\mu\text{-dpfb})(\mu\text{-dppa})]$  ( $\text{dppa} = \text{Ph}_2\text{PC}\equiv\text{CPPh}_2$ ), 1077

New ruthenium-tin clusters with bulky ligands. Crystal and molecular structures of  $[\text{Ru}_3(\text{CO})_9(\mu\text{-SnR}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$ ,  $[\text{Ru}_3(\text{CO})_9(\mu\text{-SnR}_2)_2]$ ,  $[\text{Ru}_3(\text{CO})_9(\mu\text{-SnR}_2)_2(\mu\text{-SnR}_2)]$  [ $\text{R}' = \text{C}_6\text{H}_5\text{Pr}_2, 2,4,6$ ], 1133

Synthesis, characterisation, Mössbauer spectra, and structures of some trimuclear iron-tin clusters, 1145

New mixed carbonyl-nitro- and -nitrito complexes of manganese and rhenium, 1419

Synthesis and structure of  $[\text{Ru}_3(\text{CO})_9(\mu\text{-H})(\mu_3-\eta^2\text{-PhCH}_2\text{CH}_2\text{C}=\text{NPh})]$ , a product of an 'intramolecular' hydrogen-transfer reaction, 1429

Synthesis of tetrานuclear cobalt-molybdenum butterfly clusters with alkyne ligands: crystal structure of  $[\text{Co}_2\text{Mo}_2(\mu_4\text{-C}_2\text{Me}_2)(\mu\text{-CO})_4(\text{CO})_4(\eta^5\text{C}_5\text{H}_5)]$ , 1437

Unusual reactions of a cationic carbyne complex of manganese with carbonyliron dianions to form a novel dimetal carbene-bridged complex  $[\text{MnFe}(\mu\text{-C}(\text{COEt})\text{Ph})_2(\eta^5\text{C}_5\text{H}_5)(\text{CO})_5]$ , 1443

Reactions of heterocyclic organotellurium compounds with triiron dodecacarbonyl: reactions of thiophenes revisited, 1545

Some transition-metal complexes derived from silylated 1,3-diyne, 1551

Systematic synthesis of hexanuclear phosphido-bridged osmium clusters; crystal and molecular structure of  $[\text{Os}_6(\mu\text{-H})(\text{CO})_{22}(\mu\text{-PH}_2)]$ , 1567

Synthesis of 1,3-diaryltriazenido triruthenium and triosmium clusters: crystal structures of  $[\text{Ru}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  and  $[\text{Os}_3(\text{CO})_11\text{Cl}(\eta^5\text{C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$ , 1573

Mechanism of chelation of phenanthroline derivatives to Mo(CO)<sub>6</sub> deduced from pulsed photolysis studies in several solvents at high pressure, 1629

Synthesis, characterization and crystal structures of a series of ruthenium  $\mu_4$ -nitrene carbonyl clusters, 1707

Triosmium and triruthenium clusters containing the 4-methyl-thiazolidine ligand: crystal structures of  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-2,3-}\eta^2\text{-C=NCMe=CHS})]$ ,  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-2,3-}\eta^2\text{-C=NCMe=CHS})(\text{PPh}_3)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-2,3-}\eta^2\text{-C=NCMe=CHS})(\text{PPh}_3)]$ , 1731

Spectroscopic titration of  $[\text{Re}(\mu\text{-H})_4(\text{CO})_{12}]$  with chloride ions. An electron-precise tetranuclear cluster as intermediate in the transformation of a tetranuclear unsaturated cluster into trimuclear unsaturated anions, 1771

Primary alkenyl phosphine complexes of chromium and molybdenum; synthesis and characterisation of tricarbonyl(1,5,9-triphosphaclododecane)chromium(0), 1801

Covalently linked anthracene-containing supramolecular complexes of triosmium carbonyl clusters: synthesis, crystal structures and solvatochromic behaviour, 1853

Face versus vertex co-ordination of tridentate crown thioethers to trimuclear cobalt clusters, 1875

Crystal structures of  $[\text{Fe}_3(\text{CO})_9(\text{P}(\text{OR})_3)_3]$  ( $\text{R} = \text{Me or Pr}$ ), 2159

Isolation and structural characterisation of products from the reaction of  $[\text{Os}_3(\mu\text{-H})_4(\text{CO})_{10}(\text{MeCN})_2]$  with cyclohexa-1,3-diene, 2165

Synthesis and spectroscopic characterisation of new mixed-metal, mixed-chalcogenide clusters  $[\text{Fe}_2\text{W}(\text{CO})_{10}(\mu_3\text{-Se})(\mu_3\text{-E})]$  ( $\text{E} = \text{Te or S}$ ). Structures of  $[\text{Fe}_2\text{M}(\text{CO})_{10}(\mu_3\text{-Se})(\mu_3\text{-E})]$  ( $\text{M} = \text{W, E = Se or Te; M = Mo, E = Se}$ ), 2173

Synthesis and characterisation of triosmium clusters containing a nitrite ligand; crystal and molecular structures of  $[\text{N}(\text{PPh}_3)_2][\text{Os}_3(\text{CO})_{10}(\mu_3\text{-NO}_2)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}(\mu_3\text{-NO}_2)]$ , 2177

Novel triosmium cluster complexes with rod-like molecular geometry. Syntheses and crystal structures of  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_9(\mu_3\text{-CNC}_6\text{H}_4\text{CH=NC}_6\text{H}_4\text{OC}_16\text{H}_{31})]$  and  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_9(\mu\text{-NC}_5\text{H}_5\text{CH=NC}_6\text{H}_4\text{OC}_16\text{H}_{31})]$ , 2293

**CARBONYL (contd)**

Arene cluster compounds, 2395  
 Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[\text{Mo}_2\text{Ru}_2(\mu_3-\text{S})(\mu-\text{SPr})_2(\text{CO})_4(\eta-\text{C}_5\text{H}_5)_2]$ , 2403  
 Mesomorphic ( $\eta^5$ -arene)tricarbonylchromium complexes, 2533  
 Structural and two-dimensional phosphorus-31 nuclear magnetic resonance studies of derivatives from  $(\text{RP})_3$  ( $\text{R} = \text{Et}$  or  $\text{Ph}$ ) and activated triosmium clusters  $[\text{Os}_3(\text{CO})_{10}\text{X}_2]$  ( $\text{X} = \mu\text{-H}$  or  $\text{NCMe}$ ), 2773  
 Synthesis, characterisation, molecular and crystal structures of two novel osmium-palladium carbide carbonyl clusters, 2887  
 Reactions of  $[\text{RhRu}_2\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})_2\text{BH}_2]$  with didentate phosphines and the synthesis and crystal structure of  $[\text{RhRu}_2\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})_2(\mu\text{-dpfp}, P, P)\text{AuB}]$  [ $\text{dpfp} = 1,1'\text{-bis(diphenylphosphino)ferrrocene}$ ], 2917  
 Synthesis and solution fluxionality of rhodium(i) carbonyl complexes of 2,4,6-tris(pyrazolyl)pyrimidines ( $\text{L}$ ),  $[\text{ReX}(\text{CO})_3\text{L}]$  ( $\text{X} = \text{Cl}$ ,  $\text{Br}$  or  $\text{I}$ ). Isolation and identification of the dinuclear complex  $[\text{ReBr}(\text{CO})_3]_2\text{L}$ , 3065  
 Reactions of  $(\text{F}_3\text{CP})_4$  and  $(\text{F}_3\text{CP})_3$  with ruthenium and osmium carbonyl clusters: characterisation and crystal structures of the products, 3131  
 Codimerisation of CO and a 1,3-diynyl-metal complex on an  $\text{Ru}_3$  cluster, 3151  
 Synthesis of heteronuclear compounds by use of  $[\text{Ti}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_2)_2(\text{SR})_2]$  ( $\text{R} = \text{Et}$  or  $\text{Ph}$ ) as metalloligands. Crystal structures of  $[(\text{Mo}(\text{CO})_4)_2(\mu\text{-}(\text{Ph}_2\text{PC}_5\text{H}_4)_2\text{Ti}(\text{SPPh}_2)_2]$  and  $[(\text{OC})_2\text{Mo}(\mu\text{-Ph}_2\text{PC}_5\text{H}_4)_2\text{Ti}(\mu\text{-SPPh}_2)\text{Pt}(\text{C}_6\text{F}_5)_2]$ , 3201  
 Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated  $[\text{M}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-NC}_5\text{H}_4)]$  ( $\text{M} = \text{Ru}$  or  $\text{Os}$ ) and ferrocene chromophores bridged by an aromatic unit, 3209  
 Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[\text{Mo}_2\text{Ru}_2(\mu_3\text{-S})_2(\mu\text{-SPr})_2(\text{CO})_4(\eta-\text{C}_5\text{H}_5)_2]$  (1996, 2403), 3341  
 Synthesis and solution fluxionality of rhodium(i) carbonyl complexes of 2,4,6-tris(pyrazol-1-yl)-1,3,5-triazines ( $\text{L}$ ),  $[\text{ReX}(\text{CO})_3\text{L}]$  ( $\text{X} = \text{Cl}$ ,  $\text{Br}$  or  $\text{I}$ ). Characterization of  $[\{\text{ReX}(\text{CO})_3\}_2\text{L}]$  ( $\text{X} = \text{Cl}$  or  $\text{Br}$ ), 3371  
 Syntheses, structures and chemistry of the high-nuclearity ruthenium hydroido cluster anions  $[\text{Ru}_{10}\text{H}_2(\text{CO})_{25}]^{2-}$  and  $[\text{Ru}_{11}\text{H}(\text{CO})_{27}]^{3-}$ , 3515  
 Synthesis, characterisation and electrochemical analysis of a bis-(ferrocenyl) vinyl allyl ether-substituted triosmium cluster, 3521  
 Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(ii) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527  
 Synthesis of heteropolymeric complexes with 1,1,1-tris-(diphenylphosphinomethyl)ethane. Crystal structure of  $[(\text{OC})_2\text{Mo}(\text{Ph}_2\text{PCH}_2)_2\text{CMc}(\text{CH}_2\text{PPh}_2)_2\text{AuCl}]$ , 3603  
 Rapid and mild synthesis of  $[\text{Re}_2(\text{CO})_{10}]$  by reduction of  $[\text{NH}_4^+][\text{ReO}_4^-]$  at atmospheric CO pressure, 3611  
 Synthesis and characterisation of diphenylvinylphosphine-substituted osmium and ruthenium carbonyl clusters; crystal and molecular structures of  $[\text{Os}_2(\text{CO})_{10}(\text{Ph}_2\text{PCH}=\text{CH}_2)]$  and  $[\text{Os}_2(\mu\text{-H})(\text{CO})_7(\mu\text{-Ph}_2\text{PCH}=\text{CH}_2)]$ , 3825  
 Synthesis and crystal structures of two isomers of  $[\text{Ru}_4(\text{CO})_6(\mu_3\text{-C}_5\text{H}_20)]$ , 3833  
 Diffunctionalised arene  $\text{Ru}_3\text{C}$  cluster compounds with electron-withdrawing groups, 3837  
 Structural and nuclear magnetic resonance studies of triosmium and triruthenium carbonyl cluster derivatives containing pentaphenylcyclopentaphosphane, 3843  
 Substitution reactions of  $[\text{Ge}_2\text{Co}_4\text{Fe}_2(\text{CO})_{21}]$  with methylgermanes, and its decarbonylation. Structures of  $[\text{Fe}_2\{\mu_4\text{-GeCo}_2(\text{CO})_6(\mu\text{-GeMe}_3)_2\}(\text{CO})_7]$  and  $[\text{Fe}_2\{\mu_3\text{-GeCo}(\text{CO})_4\}_2(\text{CO})_5]$ , 3853  
 Dismantling a dinuclear metallacyclopentadiene: alkyne scission in cobalt-molybdenum clusters, 3909  
 Synthesis, characterization and molecular structure of a triruthenium carbonyl cluster containing both phenylimido and nitroobenzene ligands, 3911  
 On the design of high co-ordination number metal-based liquid crystals: mesomorphic bipyridine complexes of rhodium(i), 3913  
 Kinetics and mechanism of ligand substitution in  $[\text{Cr}(\pi\text{-ligand})(\text{CO})_5]$  complexes (ligand = naphthalene, pyrene, thiophene, 2,6-dimethylpyridine or cycloheptatriene) and of *fac/mer* isomerization in  $[\text{M}(\text{CO})_5\text{L}_2]$  ( $\text{M} = \text{Cr}$ ,  $\text{Mo}$  or  $\text{W}$ ;  $\text{L} = \text{phosphite}$ , phosphine or isocyanide), 3959  
 Synthesis and characterisation of the chloride-bridged copper-ruthenium cluster dianion  $[(\text{Ru}_2\text{Cu}_2\text{C}(\text{CO})_{16})_2\text{Cl}_2]^{2-}$ , 4033  
 Reactions of the linear triosmium cluster  $[\text{Os}_3\text{H}(\text{CO})_{11}(\eta^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  with  $[\text{Os}_3(\text{CO})_{12-n}(\text{NCMe})_n]$  ( $n = 1$  or 2): crystal structures of  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{11}(\eta^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{11}(\eta^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$ , 4083  
 Synthesis, characterisation and electrochemistry of the novel ferrocenyldienediylitriosmium cluster  $[\text{Os}_3(\text{CO})_9(\mu_3\text{-}\eta^4\text{-Fe}[\text{C}_5\text{H}_4(\text{C}_2\text{SiMe}_3)]_2)]$ , 4147

Synthesis and reactivity of the formally co-ordinatively unsaturated diruthenium hydride  $[\text{Ru}_2(\mu\text{-H})(\mu\text{-CO})(\text{CO})_3\{\mu\text{-}(\text{PrO})_2\text{PNEtP}(\text{OPr})_2\}_2]^+$  and its co-ordinatively saturated parent  $[\text{Ru}_2(\text{H}(\text{CO}))_5\{\mu\text{-}(\text{PrO})_2\text{PNEtP}(\text{OPr})_2\}_2]^+$ , 4171  
 Mono- and di-nuclear complexes of molybdenum carbonyl derivatives with pyridine-2-carbaldehyde azine and phosphines: syntheses, structure, spectroscopic and electrochemical characterisation and solvatochromic effects, 4369

The versatile chemistry of arenemanganese carbonyl complexes, 4493

Use of  $[\text{Ru}(\eta^5\text{-C}_5\text{H}_5)(\text{MeCN})_3]^+$  as a capping reagent in cluster build-up: synthesis and structural characterisation of  $[\text{Os}_3\text{Ru}_2(\text{CO})_{15}(\eta^5\text{-C}_5\text{H}_5)_2]$ , 4509

Thermolytic reaction of 1,4-disopropenylbenzene with  $[\text{Ru}_3(\text{CO})_{12}]$ : an arene ligand as a template for cluster formation, 4621

Synthesis, characterization and molecular structure of two  $\text{Ru}_4$  clusters with  $\beta$ -alkylstyrene ligands, 4629

Structural and bonding trends in osmium carbonyl cluster chemistry: metal-metal and metal-ligand bond lengths and calculated strengths, relative stabilities and enthalpies of formation of some binary osmium carbonyls,  $[\text{Os}_x(\text{CO})_y]$ , 4639

**CARBONYLATION**

Methanol carbonylation revisited: thirty years on, 2187  
 Carbonylation of hydrocarbypalladium(ii) complexes containing substituted pyridinecarboxylate chelating ligands. Steric and electronic manipulation of the CO-insertion mechanism, 2197  
 Formation of  $[\text{CoPt}_2\text{Cl}_2(\text{PPh}_3)_4(\mu_3\text{-S})_2]$  from facile heterometallation of  $[\text{Pt}_2(\text{PPh}_3)_4(\mu\text{-S})_2]$  and its facile deheterometallation via carbonylative desulfurization to give Pt-Pt bonded  $[\text{Pt}_2(\text{CO})(\text{PPh}_3)_2(\mu\text{-S})]$ , 4023

**CARBOPENTAZANE**

Preparation, crystal structure and mechanism of formation of a novel dinuclear carbopentazane complex,  $[\text{Rh}_2(\text{Ph}_3)_4((\text{NH}_2\text{NH}_2\text{CH}_2)_2)[\text{NO}_3]_2$ , 61

**CARBOXAMIDE**

Synthesis, crystal structure and molecular orbital investigation of the first platinum complex of piroxicam, 111

Structural studies on an iron(iii) complex containing (*Z*)-(2-aminothiazol-4-yl)-*N*-(2-hydroxyethyl)-2-(hydroxymino)-acetamide, a model compound for a cephalosporin antibiotic Cefdinir, 1967

Spectral and electrochemical recognition of halide anions by acyclic mononuclear ruthenium(ii) bipyridyl receptor molecules, 2341

Getting excited about lanthanide complexation chemistry, 3613

A potentiometric and spectroscopic study of copper(ii) diamidodiamino complexes, 4605

**CARBOXYLATE**

Study of a solid-state polymerisation reaction: thermal elimination of NaCl from sodium chloroacetate, 11

Chemical and biological reactions of diacetato[2-(dimethylaminomethyl)phenyl]gold(iii),  $[\text{Au}(\text{O}_2\text{CMe})_2(\text{dmamp})]$ , 69

Cadmium-113 nuclear magnetic resonance studies of cadmium(ii)-carboxylate complexes in aqueous solution, 75

Preparation of bis(phosphine)bis(selenocarboxylato)-nickel(ii), -palladium(ii) and -platinum(ii) complexes and their crystal structure analysis, 79

Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149

Moderately strong antiferromagnetic exchange coupling in a dinuclear complex containing a  $\mu$ -hydroxo- $\mu$ -carboxylato-dincopper(ii) core, 247

Improved syntheses, structures, spectral and electrochemical properties of  $[\text{Mn}^{III}_2(\mu\text{-O})(\mu\text{-O}_2\text{CMe})_2\text{L}_2]^{2+}$  and  $[\text{Mn}^{IV}_2(\mu\text{-O}_2\text{C})_2\text{L}_2]^{2+}$  complexes. Two homologous series derived from eight N-substituted 1,4,7-triazacyclononanes, 353

Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters  $[\text{Mo}_4\text{E}_4(\text{edta})]^{2-}$  ( $\text{E} = \text{S}$  or  $\text{Se}$ ;  $\text{H}_4\text{edta} =$  ethylenediaminetetraacetic acid) and  $[\text{Mo}_4\text{S}_4(\text{H}_2\text{O})_2]^{3-}$ , 363

Reactions of tin tetrachloride with diethyl glutarate. Crystal structures of  $[\text{Sn}_2\text{Cl}_4(\mu\text{-C}_6\text{H}_4(\text{COEt})_2)_2] \cdot 2\text{CH}_2\text{Cl}_2$  and *cis*- $[\text{SnCl}_4(\text{H}_2\text{O})_2\text{C}_6\text{H}_4(\text{CO}_2\text{Et})_2]$ , 439

Complexes of rhodium with thiobis(ethylenenitrile)tetraacetic acid; a potential bifunctional chelate for use in radiotherapy, 467

Kinetics of ternary complex formation with the (nitrilotriacetato)-zinc(ii) complex: the effect of buffers and pH, 867

New atropisomeric bidentate nitrogen-donor compounds as potential stereocontrollers in mild CO-styrene copolymerisation catalysed by palladium(ii) salts, 1021

A unified mechanistic view obtained from the temperature and pressure dependence of the spontaneous, acid-, and base-assisted cyclometallation reactions of dirhodium(ii) complexes, 1045

2-(Diphenylphosphinoyl)propanoate complexes: crystal structure of tris[2-(diphenylphosphinoyl)propanoato]vanadium(iii), 1087

Fluxionality in polynuclear copper(ii) complexes containing aminoalcoholate ligands: syntheses, crystal structures, and  $^1\text{H}$  nuclear magnetic resonance studies, 1341

**CARBOXYLATE (contd)**

Crystal structure and solution-state study of  $K[Al(mal)_2(H_2O)_2] \cdot 2H_2O$  ( $H_2mal$  = malonic acid), 1601  
 Crystal structure and magnetic properties of the layer ferrimagnet  $N(n-C_6H_{11})_4Mn^{II}Fe^{IV}(C_2O_4)_3$ , 1839  
 Synthesis, characterization and crystal structures of bismuth(III) complexes with triethylenetetraaminehexaacetic acid and *trans*-cyclohexane-1,2-diaminetetraacetic acid, 2023  
 An unusual anionic oxo-( $\mu$ -oxo)-vanadium(V) network interlinked by cationic sodium chains, 2111  
 Mechanistic information on ligand-substitution reactions of europium(III) in aqueous solution from high-pressure stopped-flow experiments, 2127  
 An unusual tetrานuclear copper(II) acetate structure with an open cubic  $Cu_4O_4$  framework, 2179  
 Synthesis and structure of a novel carboxylate-bridged heterometallic copper(II)-gadolinium(III) complex, 2181  
 Carbonylation of hydrocarbylpalladium(II) complexes containing substituted pyridinecarboxylate chelating ligands. Steric and electronic manipulation of the CO-insertion mechanism, 2197  
 Bis(carboxylato) complexes of platinum(II). Structural and bonding analysis of  $[Pt(O_2CR)(L-L)]$  [ $L-L = 2PPh_3, Ph_2PCH_2PPh_2$  or  $Fe(C_6H_4PPh_2)_2, R = Me, CF_3, Pr^i$  or  $Ph$ ], 2207  
 Formation of axial phenolate-metal bonds in square-pyramidal complexes, 2233  
 Selectivity of macrocyclic aminocarboxylates for alkaline-earth metal ions and stability of their complexes, 2347  
 Solid-state carbon-13 nuclear magnetic resonance investigations of bismuth citrate complexes and crystal structure of  $Na_2[Bi_2(cit)_2] \cdot 7H_2O$ , 2417  
 Novel octadecanuclear copper(II)-lanthanoid(III) clusters. Synthesis and structures of  $[Cu_{12}Ln_6(\mu_1-OH)_4(O_2CCCH_2CH_2NC_6H_5)_{12}] \cdot (H_2O)_{16}(\mu_{12}-ClO_4)_2$  [ $[ClO_4]^- \cdot 16H_2O$  ( $Ln^{III} = Gd^{III}$  or  $Sm^{III}$ )], 2443  
 Synthesis, structure and magnetic properties of the first two-dimensional infinite sheet-like mixed-valence manganese(II,III) complex with bridging salicylate and pyridine-2-carboxylate ligands, 2735  
 Synthesis and characterization of zinc(II) oxydiacetate (oda) complexes. Crystal structures of  $[\{Zn(oda)_2\} \cdot 3H_2O]_n$ ,  $[\{Zn(oda)(bipy)(H_2O)\}_2 \cdot 2.5H_2O$  and  $[\{Zn(oda)(phen)(H_2O)\}_2 \cdot 1.5H_2O$  ( $bipy = 2,2'$ -bipyridine,  $phen = 1,10$ -phenanthroline)], 2747  
 Synthesis, crystal structure and redox properties of  $\mu$ -oxo-bis( $\mu$ -acetato)diruthenium(III) complexes having 2,2'-bipyridine and imidazole bases as terminal ligands, 3289  
 Layered, network and chain structures of cadmium(II) malonate: crystal structure and cadmium-113 nuclear magnetic resonance studies, 3363  
 Model complexes for the carboxylate-histidine-metal triad systems in metalloenzymes. Synthesis, crystal structures and spectroscopic properties of  $[M(Him)_2(O_2CMe)_2]$  ( $M = Zn^{II}$  or  $Co^{II}$ ,  $Him = imidazole$ ), 3465  
 Getting excited about lanthanide complexation chemistry, 3613  
 Syntheses and characterization of novel tri- and hexa-nuclear zinc complexes with biomimetic chelate ligands, 3731  
 Structurally diverse copper(II) herbicide complexes: mono- and bi-nuclear neutral or cationic complexes, 3737  
 Uncapped and polar capped prisms of cobalt and nickel, 3745  
 Molecular structure of  $[\text{Ti}(\text{tp})(O_2CCF_3)]$  and  $^{19}\text{F}$  dynamic nuclear magnetic resonance of it and  $[\text{Ti}(\text{tmp})(O_2CCF_3)]$  [ $\text{tp} = 5,10,15,20$ -tetraphenylporphyrinate,  $\text{tmp} = 5,10,15,20$ -tetra(4-methoxyphenyl)porphyrinate], 3787  
 A pyrazolate-bridged cyclic tetranuclear copper(II) complex: synthesis, crystal structure and magnetic properties, 3799  
 5-Aminoorotic acid, a versatile ligand with the ability to exhibit differing co-ordination and hydrogen-bonding modes: synthesis and crystal structures of platinum(II) complexes, 3805  
 Difunctionalised arene Ru<sub>2</sub>C cluster compounds with electron-withdrawing groups, 3837  
 A chiral tetranuclear platinum(II) cluster complex,  $[\text{Pt}_4(O_2CMe)_4(\text{pro})_4]$  ( $\text{pro} = L$ -proline), 4031  
 Isolation of two geometric isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diron(III) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037  
 Models of the active sites of zinc-containing enzymes: the structure of acetoato[hydrotris(3-*tert*-butyl-5-methylpyrazol-1-yl)borato]-zinc(II), 4283  
 Electron-transfer reactions in  $[\text{Ru}(\text{edta})(\text{pyz})]$  ( $\text{edta} = \text{ethylene-}nitrilotetraacetate$ ,  $\text{pyz} = \text{pyrazine}$ ), 4389  
 Kinetics and mechanism of reduction of (*trans*-cyclohexane-1,2-diyldinitrilotetraacetato)manganese(II) by  $\text{HONH}(\text{SO}_3)^-$  and  $\text{HON}(\text{SO}_3)_2^{2-}$ , 4393  
 First-row transition-metal complexes of mixed 'pendant-arm' derivatives of 1,4,7-triazacyclononane containing phenolate and carboxylate functional groups, 4409

**CARBINE**

Unusual reactions of a cationic carbyne complex of manganese with carbonyliron dianions to form a novel dimetal carbene-bridged complex  $[\text{MnFe}(\mu-\text{C}(\text{COEt})\text{Ph})(\eta-\text{C}_6\text{H}_5)(\text{CO})_3]$ , 1443

**DEPROTONATION**

Reactions of the aminocarbene complex *trans*- $[\text{Re}(\text{CNH}_2)(dppe)_2](\text{BF}_3)$  ( $dppe = \text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2$ ). Synthesis and properties of the cyano-complexes *trans*- $[\text{Re}(\text{CN})\text{L}(dppe)_2]$  ( $\text{L} = \text{NCR, N}_2, \text{CO or C=CHPh}$ ) and crystal structure of *trans*- $[\text{Re}(\text{CN})(\text{NCMe})(dppe)_2]\text{PrOH}$ , 2763

**CASCADE**

Cascade complexation of pseudo-halide by dicopper cryptates: a linear Cu-NNN-Cu unit, 3227

**CATALYSIS**

Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Group 4 metal alkoxide complexes as catalysts for olefin polymerization, 219

Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255

Preparation and reactivities of chiral manganese(III) and copper(II) complexes of binaphthyl Schiff bases, 405

Kinetics and mechanism of the cobaloxime(II)-catalysed oxidation of 2-aminophenol by dioxygen. A phenoxazinone synthase model involving free-radical intermediates, 473

Ligand-stabilized metal clusters and colloids: properties and applications, 589

Hydrogenation and hydrogenolysis of thiophenic molecules catalysed by soluble metal complexes, 801

New mono- and bi-nuclear *ansa*-metallocenes of zirconium and hafnium as catalysts for the polymerisation of ethene and propene, 921

New atropisomeric bidentate nitrogen-donor compounds as potential stereocontrollers in mild CO-styrene copolymerisation catalysed by palladium(II) salts, 1021

Direct formation of alcohols by hydrocarbonylation of alkenes under mild conditions using rhodium trialkylphosphine catalysts, 1161

Electrochemical carboxylation of arylmethyl chlorides catalysed by  $[\text{Co}(\text{salen})]$  [ $\text{H}_2\text{salen} = N,N'$ -bis(salicylidene)ethane-1,2-diamine], 1613

Hydrocarbonylation of prop-2-en-1-ol to butane-1,4-diol and 2-methylpropan-1-ol catalysed by rhodium triethylphosphine complexes, 1793

The crystal structures of  $[\text{NMe}_4][\{\text{Me}_2\text{AsO}_2\}\{\text{MoO}_2\}_2]$ ,  $[\text{NMe}_4][\{\text{Ph}_2\text{PO}_2\}\{\text{MoO}_2\}_2]$ ,  $[\text{NBu}_4][\{\text{Ph}_2\text{PO}_2\}\{\text{WO}_2\}_2]$  and  $[\text{NH}_4][\{\text{Ph}_2\text{PO}_2\}\{\text{MoO}_2\}_2(H_2O)]$  and their use as catalytic oxidants, 2039

Novel amphiphilic diphosphines: synthesis, rhodium complexes, use in hydroformylation and rhodium recycling, 2143

Methanol carbonylation revisited: thirty years on, 2187

Synthesis, characterisation and reactions of bis[2-(dimethylamino-methyl)phenyl] diselenide: its structure and that of [2-(dimethylamino-methyl)phenyl]selenium bromide, 2719

Synthesis and reactivity of aryl- and alkyl-palladium(II) complexes with functional phosphines and phosphinoenolate ligands: first analogues of model nickel catalysts, 2903

Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrogen ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and olefins, 3139

Iron catalysis of the reduction of oxime-bound nickel(IV) by hydroxylamine, 3417

Synthesis and crystal structure of a dinuclear rhodium complex. Catalytic activity of mono- and di-nuclear rhodium phosphite complexes in hydroformylation, 3561

Phenyl nickel complexes with a chelating P,N ligand. Structures of  $\text{Ph}_2\text{P}=\text{CH}(\text{NPh})\text{Ph}$  and  $[\text{NiPh}(\text{Ph}_2\text{PCH}=\text{C}(\text{NPh})\text{Ph})_2]$ ,  $[\text{Ph}_2\text{P}=\text{CHC}(\text{NPh})\text{Ph}]$ , 3571

Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on  $[\text{Cl}_2\text{FeS}_2\text{VS}_2\text{FeCl}_2]^{2-}$ , 3667

Nitrile hydration catalysed by palladium(II) complexes, 3677

Structural characterization of possible intermediates in vanadium-catalysed sulfide oxidation, 3865

(*R*)- and (*S*)-2-Diphenylphosphinoyl-2'-hydroxy-1,1'-binaphthalene: versatile chiral bidentate ligands, 4449

Chemical origin of high activity in oxygenation of cyclohexane by  $H_2O_2$ , catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

Molybdenum(III) chloride-tetrahydrothiophene (tht) complexes in the catalytic polymerization and cyclotrimerization of alkynes: structures and reactivities of the possible intermediates  $[\text{MoCl}_3(\text{tht})_2(\text{PhC=CR})]$  ( $R = \text{Me or Et}$ ), 4533

**CATECHOL**

Electron-transfer reactions in  $[\text{Ru}(\text{edta})(\text{pyz})]$  ( $\text{edta} = \text{ethylene-}nitrilotetraacetate$ ,  $\text{pyz} = \text{pyrazine}$ ), 4389

**CELLULAR LIGAND-FIELD ANALYSIS**

On the electronic structures and spectra of  $\text{NiCl}_2$  and  $\text{CuCl}_2$ , 2601

The electronic structure of 'linear' nickel oxides, 4555

**CHAIN**

Concerted supramolecular motifs: linear columns and zigzag chains

**CHAIN (contd)**  
of multiple phenyl embraces involving  $\text{Ph}_4\text{P}^+$  cations in crystals, 3755

**CHARGE TRANSFER**  
Synthesis, electrochemistry and photoconductivity of oligo- and poly-(1,1'-dihexylferrocenylenes), 2929  
Ultraviolet-circular dichroism spectra for structural analysis of copper(II) complexes with aliphatic and aromatic ligands in aqueous solution, 3269  
Electron-transfer salts derived from *N,N'*-dicyano-*p*-benzoquinone diimines and the novel dinuclear organometallic donor [ $\text{Fe}_2(\eta\text{-C}_5\text{Me}_5)_2(\mu\text{-SEt})_2(\text{CO})_2$ ], 3533

**CHELATION**  
Mechanism of chelation of phenanthroline derivatives to  $\text{Mo}(\text{CO})_3$  deduced from pulsed photolysis studies in several solvents at high pressure, 1629

**CHIRALITY**  
Metal complexes of a chiral quadridentate Schiff base, 1229  
Synthesis and characterization of square-planar palladium(II), platinum(II) and rhodium(I) complexes with a chiral pyridyl-phosphine hybrid ligand, 1295  
Synthesis and characterisation of ( $\eta^5$ -cyclopentadienyl)( $\eta^5$ -ring)titanium alkyl (ring = indenyl or  $\text{C}_5\text{H}_4\text{Bu}'$ ) complexes. Crystal and molecular structure of racemic [ $\text{Ti}(\eta^5\text{-C}_5\text{H}_3\text{-C}_5\text{H}_7)(\text{CH}_2\text{SiMe}_3)\text{Cl}$ ], 2843  
Chelate-stabilized alkoxopalladium(II) complexes with chiral phosphine-substituted carbohydrate ligands, 2911  
Dilithium diamides [ $[\text{Li}(\text{OC}_4\text{H}_8)_2]_2[\text{C}_{20}\text{H}_{12}(\text{NR})_2]$ ] ( $\text{R} = \text{SiMe}_3$  or  $\text{CH}_2\text{Bu}'$ ) derived from  $R\text{-}, S\text{-}$  or  $R,S\text{-}2,2'\text{-diamino-1,1'-binaphthyl}$  derivatives, 3595  
A chiral tetrานuclear platinum(II) cluster complex, [ $\text{Pt}_4(\text{O}_2\text{CMe})_4(\text{pro})_4$ ] ( $\text{Hpro} = 1\text{-proline}$ ), 4031  
Asymmetric syntheses, structures and co-ordination chemistry of palladium(II) complexes containing a chiral P,S hybrid bidentate ligand, 4443  
(*R*)- and (*S*)-2-Diphenylphosphinoyl-2'-hydroxy-1,1'-binaphthalene: versatile chiral bidentate ligands, 4449  
Group 9 metal 1,1'-bis(phosphino)ferrrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633

**CHLORANILATE**  
Oxidative-addition reactions on planar chloranilate rhodium systems. Crystal structure of [ $\text{Rh}_2(\mu\text{-C}_6\text{Cl}_2\text{O}_4)\text{Me}_2\text{I}_2(\text{CO})_2(\text{PPh}_3)_2$ ], 2155

**CHLORIDE**  
Vanadium chloride and chloride oxide complexes in an ambient-temperature ionic liquid. The first use of bis(trichloromethyl) carbonate as a substitute for phosgene in an inorganic system, 2787  
Synthesis and characterisation of the chloride-bridged copper-ruthenium cluster dianion [ $[\text{Ru}_6\text{Cu}_2\text{C}(\text{CO})_{16}]_{2-}\text{Cl}_2$ ] $^{2-}$ , 4033

**CHROMIUM**  
Synthesis and crystal structures of the new ternary nitrides  $\text{Sr}_3\text{CrN}_3$  and  $\text{Ba}_2\text{CrN}_3$ , 1  
Pentamethylcyclopentadienyl imido compounds of chromium, 271  
Kinetic and thermodynamic studies of intramolecular rearrangement and cleavage of the heterobinuclear aqua ion,  $[(\text{H}_2\text{O})_2\text{Rh}(\mu\text{-OH})_2\text{Cr}(\text{OH}_2)_4]^{4+}$ , 1051  
Synthesis, structure and properties of new iron-molybdenum and -tungsten fulvalene-bridged heterobimetallic complexes, 1323  
Comparative study of oxidation by chromium(V) and chromium(VI), 1607  
Primary alkenyl phosphine complexes of chromium and molybdenum; synthesis and characterisation of tricarbonyl(1,5,9-triphosphacyclododecane)chromium(0), 1801  
Local structures of the amorphous chromium sulfide,  $\text{CrS}_3$ , and selenide,  $\text{CrSe}_3$ , from X-ray absorption studies, 2245  
Synthesis of  $\eta$ -arene derivatives of chromium and molybdenum containing Lewis-acid boron substituents, 2467  
Mesomorphic ( $\eta^5$ -arene)tricarbonylchromium complexes, 2533  
Kinetics and mechanism of ligand substitution in  $[\text{Cr}(\pi\text{-ligand})(\text{CO})_3]$  complexes (ligand = naphthalene, pyrene, thiophene, 2,6-dimethylpyridine or cycloheptatriene) and of *fac/mer* isomerization in  $[\text{M}(\text{CO})_3\text{L}]$  ( $\text{M} = \text{Cr, Mo or W; L} = \text{phosphite, phosphine or isocyanide}$ ), 3959  
New class of mixed sandwich cycloheptatrienylchromium complex: crystal structures of the redox pair  $[\text{Cr}(\eta\text{-C}_5\text{H}_5\text{Me})(\eta\text{-C}_6\text{H}_4\text{Me}-4)][\text{PF}_6]_n$  ( $n = 1$  or 2), 4035  
Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes *via* sulfenamido rearrangement, 4063

**CIRCULAR DICHROISM**  
Co-ordination of copper(II) ions by prolyl- $\alpha,\beta$ -dehydroamino acids: comparative studies and general considerations, 3265  
Ultraviolet-circular dichroism spectra for structural analysis of copper(II) complexes with aliphatic and aromatic ligands in aqueous solution, 3269

**CITRATE**  
Solid-state carbon-13 nuclear magnetic resonance investigations of bismuth citrate complexes and crystal structure of  $\text{Na}_2[\text{Bi}_2(\text{cit})_2] \cdot 7\text{H}_2\text{O}$ , 2417

**CLUSTER**  
Reactions of the unsaturated alkyne cluster  $[\text{Os}_3(\text{CO})_6(\text{PhC}_2\text{Ph})(\text{dppm})(\text{P}(\text{OMe})_3)_3]$  and two isomers of  $[\text{Os}_3(\text{CO})_6(\text{PhC}_2\text{Ph})(\text{dppm})(\text{PBu}_3)]$  ( $\text{dppm} = \text{Ph}_2\text{PCH}_2\text{PPh}_2$ ), 117  
Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters  $[\text{Mo}_4\text{E}(\text{edta})_2]^{3-}$  ( $\text{E} = \text{S or Se}$ ;  $\text{H}_4\text{edta} = \text{ethylenediaminetetraacetic acid}$ ) and  $[\text{Mo}_4\text{S}_4(\text{H}_2\text{O})_{12}]^{3+}$ , 363  
The novel structure of the  $[\text{Au}_{11}(\text{PMePh}_2)_9]^{+}$  cation: crystal structures of  $[\text{Au}_{11}(\text{PMePh}_2)_9][\text{C}_2\text{B}_9\text{H}_{12}]$ -4thf and  $[\text{Au}_{11}(\text{PMePh}_2)_9][\text{C}_2\text{B}_9\text{H}_{12}]$  (thf = tetrahydropyran), 479  
Synthesis and characterization of the centred icosahedral cluster series  $[\text{Au}_8\text{M}^{18}\text{Cl}_4(\text{PMePh}_2)_8][\text{C}_2\text{B}_9\text{H}_{12}]$ , where  $\text{M}^{18} = \text{Au, Ag or Cu}$ , 491  
Metal clusters: a personal perspective, 555  
Gold – a flexible friend in cluster chemistry, 561  
Metal-containing carbon clusters, 567  
Diverse solid-state clusters with strong metal–metal bonding. In praise of synthesis, 575  
Ligand-stabilized metal clusters and colloids: properties and applications, 589  
Removing a second mercury atom from  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{2-}$ : synthesis of  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{4-}$  and crystal structure of  $[\text{PPh}_3\text{H}]_2[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]$ , 597  
Cluster core geometrical variation in heterometallic boride clusters containing  $\text{RhRu}_4$  skeletons: crystal structures of  $[\text{RhRu}_4(\eta^5\text{-C}_5\text{Me}_5)(\mu\text{-Cl})(\text{CO})_2\text{B}]$  and  $[\text{RhRu}_4\text{H}(\text{nbd})(\text{CO})_2\text{B}(\text{AuPPh}_3)]$  ( $\text{nbd} = \text{norbornadiene}$ ), 603  
What can calculations employing empirical potentials teach us about bare transition-metal clusters?, 611  
Multinuclear solid-state nuclear magnetic resonance studies on transition-metal clusters containing hydrides, 625  
Dynamic disorder in crystalline  $[\text{Fe}_2\text{Os}(\text{CO})_{12}]$  and direct evidence for rotation of the  $\text{Fe}_2\text{Os}$  triangle in the solid state from variable-temperature X-ray diffraction and  $^{13}\text{C}$  MAS NMR studies, 631  
Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_2]$  ( $\text{M} = \text{M}' = \text{Cu, Ag or Au; M} = \text{Cu, M}' = \text{Au; dppf} = \text{Fe}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_3)_2$ ) and the crystal structures of  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_2]$  ( $\text{M} = \text{Cu or Au, M}' = \text{Au}$ ), 643  
The chemistry and the geometric and electronic structures of small naked metal clusters prepared using a rotating cryostat and studied by electron paramagnetic resonance, 653  
Deposition and growth of noble metal clusters on graphite, 665  
Characterisation of a cationic triminium aqua ion cluster and related studies, 703  
Gas-phase metal sulfide cluster anions, 709  
Dissolving alkali metals in zeolites: genesis of the perfect cluster crystal, 719  
Synthesis and structural characterisation of new copper–tellurium clusters:  $\text{TeB}_n(\text{SiMe}_3)$  as a source of  $\text{RTe}^-$  and  $\text{Te}^{2-}$  ligands, 729  
Syntheses and structural characterisation of  $[\text{Ir}_4(\text{CO})_{11}(\eta^1\text{-L})]$  and  $[\text{Ir}_4(\text{CO})_{10}(\eta^1\text{-L})_2]$  ( $\text{L} = [\text{Fe}(\eta^5\text{-P}_3\text{C}_2\text{Bu}'_2)(\eta^5\text{-P}_3\text{C}_2\text{Bu}'_1)]$  and  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_3)(\eta^5\text{-P}_3\text{C}_2\text{Bu}'_2)]\text{Ir}_4(\text{CO})_{11}$ ) and its facile conversion to  $[\text{Ir}_4\text{H}(\text{CO})_{10}[\text{Fe}(\eta^5\text{-C}_5\text{H}_3)(\eta^5\text{-P}_3\text{C}(\text{CMc}_2\text{CH}_2)\text{CBu}')] \text{Ir}_4(\text{CO})_{11}$ , via an unusual C–H activation, 739  
Characterization, redox properties and structures of the iron nitridocarbonyl clusters  $[\text{Fe}_6\text{N}(\text{CO})_{11}(\text{PPh}(\text{C}_6\text{H}_4\text{FeC}_6\text{H}_3)_2)]^-$ ,  $[\text{Fe}_6\text{N}(\text{CO})_{12}]^{3-}$  and  $[\text{Fe}_6\text{H}(\text{N})(\text{CO})_{12}]^{2-}$ , 747  
Systematic synthesis of substituted hexanuclear phosphide- and phosphinidene-bridged osmium clusters, 755  
Intrazeolite large palladium clusters prepared by organometallic chemical vapour deposition, 765  
Laser-desorption mass spectrometry of  $[\text{Ru}_6\text{C}(\text{CO})_{17}]$  and its derivatives: cluster aggregation in the gas phase, 771  
Mercury–osmium carbonyl clusters resulting from facile Hg–C bond cleavage: reactions of  $[\text{Os}_3\text{H}_2(\text{CO})_{10}]$  with  $[\text{Hg}(\text{C}=\text{CPh}_2)]$  and  $[\text{RHgC}=\text{CH}_2\text{R}]$  ( $\text{R} = \text{Ph, Me or Et}$ ), 899  
Linking and fragmentation of alkynes at a triruthenium centre, 975  
New ruthenium–tin clusters with bulky ligands. Crystal and molecular structures of  $[\text{Ru}_2(\text{CO})_6(\mu\text{-SnR}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$ ,  $[\text{Ru}_2(\text{CO})_6(\mu\text{-SnR}_2)_3]$ ,  $[\text{Ru}_3(\text{CO})_6(\mu\text{-SnR}_2)(\mu\text{-SnR}'_2)]$  and  $[\text{Ru}_4(\text{CO})_6(\mu\text{-SnR}_2)(\mu\text{-SnR}'_2)]$  ( $\text{R} = \text{CH}(\text{SiMe}_3)_2$ ,  $\text{R}' = \text{C}_6\text{H}_4\text{Pr}_3$ ), 2,4,6], 1133  
Synthesis, characterisation, Mössbauer spectra, and structures of some trimuclear iron–tin clusters, 1145  
Synthesis and structure of  $[\text{Ru}_2(\text{CO})_6(\mu\text{-H})(\mu_3\text{-n}^2\text{-PhCH}_2\text{CH}_2\text{C-NPh})]$ , a product of an ‘intramolecular’ hydrogen-transfer reaction, 1429  
Synthesis of tetrานuclear cobalt–molybdenum butterfly clusters with alkyne ligands: crystal structure of  $[\text{Co}_2\text{Mo}_2(\mu_4\text{-C}_2\text{Me}_2)(\mu\text{-CO})_4(\text{CO})_4(\eta^1\text{-C}_5\text{H}_5)_2]$ , 1437

**CLUSTER (contd)**

Reactions of heterocyclic organotellurium compounds with triiron dodecacarbonyl: reactions of thiophenes revisited, 1545

Some transition-metal complexes derived from silylated 1,3-dynes, 1551

Systematic synthesis of hexanuclear phosphido-bridged osmium clusters; crystal and molecular structure of  $[\text{Os}_6(\mu\text{-H})(\text{CO})_{22}^-(\mu\text{-PH}_2)]$ , 1567

Synthesis of 1,3-diaryltaienido triruthenium and triosmium clusters: crystal structures of  $[\text{Ru}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  and  $[\text{Os}_3(\text{CO})_1\text{Cl}(\eta^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$ , 1573

Synthesis, characterization and crystal structures of a series of ruthenium  $\mu_4$ -nitrene carbonyl clusters, 1707

Angle-resolved X-ray photoelectron spectroscopic experiments on the full series of molecular  $[\text{Au}_{15}(\text{PR}_3)_5\text{Cl}_6]$  clusters, 1721

Triosmium and triruthenium clusters containing the 4-methyl-thiazolidine ligand: crystal structures of  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}^-(\mu\text{-2,3-}\eta^2\text{-C=NCMe=CHS})]$ ,  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-2,3-}\eta^2\text{-C=NCMe=CHS})(\text{PPh}_3)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-2,3-}\eta^2\text{-C=NCMe=CHS})(\text{PPh}_3)_2]$ , 1731

Spectroscopic titration of  $[\text{Re}_4(\mu\text{-H})(\text{CO})_{12}]$  with chloride ions. An electron-precise tetrานuclear cluster anion intermediate in the transformation of a tetranuclear unsaturated cluster into triunuclear unsaturated anions, 1771

Macropolyhedral boron-containing cluster chemistry. *syn*- and *anti*- $[(\text{C}_5\text{Me}_5)_2\text{Rh}_2\text{B}_5\text{H}_{14}(\text{OH})]$ ; an interesting nineteen-vertex isomeric pair, 1775

Covalently linked anthracene-containing supramolecular complexes of triosmium carbonyl clusters: synthesis, crystal structures and solvatochromic behaviour, 1853

Face *versus* vertex co-ordination of tridentate crown thioethers to trinuclear cobalt clusters, 1875

Crystal structures of  $[\text{Fe}_3(\text{CO})_9(\text{POR})_3]$  ( $\text{R} = \text{Me}$  or  $\text{Pr}$ ), 2159

Isolation and structural characterisation of products from the reaction of  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}(\text{MeCN})_2]$  with cyclohexa-1,3-diene, 2165

Synthesis and spectroscopic characterization of new mixed-metal, mixed-chalcogenide clusters  $[\text{Fe}_2\text{W}(\text{CO})_{10}(\mu\text{-Se})(\mu\text{-E})]$  ( $\text{E} = \text{Te}$  or  $\text{S}$ ). Structures of  $[\text{Fe}_2\text{M}(\text{CO})_{10}(\mu\text{-Se})(\mu\text{-E})]$  ( $\text{M} = \text{W}$ ,  $\text{E} = \text{Se}$  or  $\text{Te}$ ;  $\text{M} = \text{Mo}$ ,  $\text{E} = \text{Se}$ ), 2173

Synthesis and characterization of triosmium clusters containing a nitrite ligand: crystal and molecular structures of  $[\text{N}(\text{PPh}_3)_2\text{O}]$ ,  $[\text{Os}_3(\text{CO})_9(\mu\text{-}\eta^2\text{-NO}_2)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-}\eta^2\text{-NO}_2)]$ , 2177

An unusual tetrานuclear copper(II) acetate structure with an open cubeane  $\text{Cu}_4\text{O}_4$  framework, 2179

Novel triosmium cluster complexes with rod-like molecular geometry. Syntheses and crystal structures of  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_9(\mu\text{-CNC}_6\text{H}_4\text{CH=NC}_6\text{H}_4\text{OC}_6\text{H}_{11})]$  and  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_9(\mu\text{-NC}_6\text{H}_4\text{CH=NC}_6\text{H}_4\text{OC}_6\text{H}_{11})]$ , 2293

Arene cluster compounds, 2395

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[\text{Mo}_2\text{Ru}_2(\mu\text{-S})_2(\mu\text{-SPr})_2(\text{CO})_4(\eta\text{-C}_6\text{H}_5)_2]$ , 2403

Novel octadecanuclear copper(II)-lanthanoid(III) clusters. Synthesis and structures of  $[\text{Cu}_{12}\text{Ln}_6(\mu\text{-OH})_{24}(\text{O}_2\text{CCH}_2\text{CH}_2\text{NC}_5\text{H}_5)_2(\text{H}_2\text{O})_6(\mu\text{-ClO}_4)_2][\text{ClO}_4]^{2-}$ , 16H<sub>2</sub>O ( $\text{Ln}^{\text{III}} = \text{Gd}^{\text{III}}$  or  $\text{Sm}^{\text{III}}$ ), 2443

Synthesis, crystal structure and non-linear optical properties of two new cluster compounds,  $[\text{MoCu}_3\text{OS}_4(\text{PPH}_3)_3(\text{S}_2\text{P}(\text{OBu})_2)_2]$  and  $[\text{MoAg}_2\text{S}_4(\text{PPH}_3)_3(\text{S}_2\text{P}(\text{OBu})_2)_2]$ , 2617

Preparation and properties of the corner-shared double cube  $[\text{Mo}_8\text{PbS}_6(\text{H}_2\text{O})_{18}]^{4+}$  as a derivative of  $[\text{Mo}_8\text{S}_6(\text{H}_2\text{O})_{18}]^{4+}$ , 2623

Structural and two-dimensional phosphorus-31 nuclear magnetic resonance studies of derivatives from  $(\text{RP})_3$  ( $\text{R} = \text{Et}$  or  $\text{Ph}$ ) and activated triosmium clusters  $[\text{Os}_3(\text{CO})_{10}\text{X}_2]$  ( $\text{X} = \mu\text{-H}$  or  $\text{NCMe}$ ), 2773

Synthesis, characterisation, molecular and crystal structures of two novel osmium-palladium carbide carbonyl clusters, 2887

Reactions of  $[\text{RhRu}_2\text{H}(\eta^2\text{-C}_5\text{Me}_5)(\text{CO})_2\text{BH}_2]$  with didentate phosphines and the synthesis and crystal structure of  $[\text{RhRu}_2\text{H}(\eta^2\text{-C}_5\text{Me}_5)(\text{CO})_2(\mu\text{-dpfp-P}_2\text{P})\text{AuB}]$  ( $\text{dpfp} = 1,1'\text{-bis(diphenylphosphino)ferrocene}$ ), 2917

Reactions of  $(\text{F}_3\text{CP})_4$  and  $(\text{F}_3\text{CP})_3$  with ruthenium and osmium carbonyl clusters: characterisation and crystal structures of the products, 3131

Codimerisation of CO and a 1,3-diynyl-metal complex on an Ru<sub>3</sub> cluster, 3151

Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated  $[\text{M}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-NC}_6\text{H}_4)]$  ( $\text{M} = \text{Ru}$  or  $\text{Os}$ ) and ferrocene chromophores bridged by an aromatic unit, 3209

Synthesis, structure, photophysics, time-resolved emission spectroscopy and electrochemistry of luminescent copper(I) acetylidyne complexes, 3283

Pentanuclear cluster of palladium(II) bridged by telluride ions: synthesis and crystal structure of  $[\text{Pd}_5(\mu\text{-Te})_5(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_3)_2]^2-$ , 3335

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[\text{Mo}_2\text{Ru}_2(\mu\text{-S})_2(\mu\text{-SPr})_2(\text{CO})_4(\eta\text{-C}_6\text{H}_5)_2]$ , 3341

Syntheses, structures and chemistry of the high-nucularity ruthenium hydrido cluster anions  $[\text{Ru}_{10}\text{H}_2(\text{CO})_{21}]^{2-}$  and  $[\text{Ru}_{11}\text{H}(\text{CO})_{21}]^{3-}$ , 3515

Synthesis, characterisation and electrochemical analysis of a bis-(ferrocenyl) vinyl allyl ether-substituted triosmium cluster, 3521

Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on  $[\text{Cl}_2\text{Fe}_5\text{VS}_2\text{FeCl}_2]^{3-}$ , 3667

Uncapped and polar capped prisms of cobalt and nickel, 3745

Reactions of carbon disulfide with open *nido*-6-iridacaboranes. The formation of closed ten-vertex cluster compounds with boron-to-metal dithioformate bridges and a novel *isocloso* — *closo* cluster conversion, 3819

Synthesis and characterisation of diphenylvinylphosphine-substituted osmium and ruthenium carbonyl clusters; crystal and molecular structures of  $[\text{Os}_3(\text{CO})_1(\text{Ph}_2\text{PCH}=\text{CH}_2)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-Ph}_2\text{PCH}=\text{CH}_2)]$ , 3825

Synthesis and crystal structures of two isomers of  $[\text{Ru}_4(\text{CO})_9(\mu_3\text{-C}_5\text{H}_5)_2]$ , 3833

Difunctionalised arene Ru<sub>4</sub>C cluster compounds with electron-withdrawing groups, 3837

Structural and nuclear magnetic resonance studies of triosmium and triruthenium carbonyl cluster derivatives containing pentaphenylcyclopentaphosphane, 3843

Substitution reactions of  $[\text{Ge}_2\text{Co}_2\text{Fe}_2(\text{CO})_{12}]$  with methylgermanes, and its decarbonylation. Structures of  $[\text{Fe}_2(\mu\text{-GeCo}(\text{CO})_6(\mu\text{-GeMe}_2)_2(\text{CO})_6)]$  and  $[\text{Fe}_2(\mu\text{-H})(\text{CO})_6(\mu\text{-Ph}_2\text{PCH}=\text{CH}_2)]$ , 3853

Redox behaviour of 4Fe-4S ferredoxin model arenethiolate complexes involving specific NH<sub>3</sub> + S hydrogen bonds assisted by a neighbouring phenyl group, 3859

Dismantling a dinuclear metallacyclopentadiene: alkyne scission in cobalt-molybdenum clusters, 3909

Synthesis, characterisation and molecular structure of a triruthenium carbonyl cluster containing both phenylimido and nitrosobenzene ligands, 3911

Synthesis of the cobalt-tellurium 'stellated' octahedral clusters  $[\text{Co}_n(\mu\text{-Te})_2(\text{PET}_3)_6]^{n+}$  ( $n = 1$  or 2). Molecular structure of  $[\text{Co}_6(\mu\text{-Te})_2(\text{PET}_3)_6]\text{PF}_6^-$ , 3991

A chiral tetrานuclear platinum(II) cluster complex,  $[\text{Pt}_4(\text{O}_2\text{CMe})_6(\text{pro})]$  ( $\text{Hpro} = \text{l-proline}$ ), 4031

Synthesis and characterisation of the chloride-bridged copper-ruthenium cluster dianion  $[\text{Ru}_4\text{Cu}_2\text{C}(\text{CO})_{16}]^{2-}\text{Cl}_2^-$ , 4033

Reactions of the linear triosmium cluster  $[\text{Os}_3\text{H}(\text{CO})_9(\eta^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  with  $[\text{Os}_3(\text{CO})_{12-n}(\text{NCMe})_n]$  ( $n = 1$  or 2): crystal structures of  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\eta^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\eta^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$ , 4083

Preparation of heterometallic single cubes  $[\text{W}_3\text{MS}_2(\text{H}_2\text{O})_{12}]^{n+}$  ( $\text{M} = \text{In}$ ,  $\text{Ge}$  or  $\text{Sn}$ ) and the first corner-shared double cubes  $[\text{W}_6\text{Sn}_2(\text{H}_2\text{O})_{18}]^{8+}$  and  $[\text{W}_8\text{Mo}_2\text{Sn}_8(\text{H}_2\text{O})_{18}]^{8+}$  as derivatives of  $[\text{W}_8\text{S}_8(\text{H}_2\text{O})_{18}]^{8+}$ , 4089

Synthesis, characterisation and electrochemistry of the novel ferrocenyldiene diethyltriosmium cluster  $[\text{Os}_3(\text{CO})_9(\mu_3\text{-}\eta^4\text{-Fe}(\text{C}_5\text{H}_5)_2\text{C}_2\text{SiMe}_2)_2]$ , 4147

Synthesis, properties and characterisation of the trinuclear clusters  $[\text{Co}(\mu\text{-SR})_2(\text{PET}_3)_3]\text{X}$  ( $\text{R} = \text{Me}$  or  $\text{Et}$ ,  $\text{X} = \text{BPh}_4^-$  or  $\text{PF}_6^-$ ), 4337

Use of  $[\text{Ru}(\eta^2\text{-C}_6\text{H}_5)(\text{MeCN})_3]^{+}$  as a capping reagent in cluster build-up: synthesis and structural characterisation of  $[\text{Os}_2\text{Ru}_2(\text{CO})_5(\eta^2\text{-C}_6\text{H}_5)_2]$ , 4509

Thermolytic reaction of 1,4-disopropenylbenzene with  $[\text{Ru}(\text{CO})_{12}]$ : an arene ligand as a template for cluster formation, 4621

Synthesis, characterisation and molecular structure of two Ru<sub>4</sub> clusters with  $\beta$ -alkylstyrene ligands, 4629

Structural and bonding trends in osmium carbonyl cluster chemistry: metal-metal and metal-ligand bond lengths and calculated strengths, relative stabilities and enthalpies of formation of some binary osmium carbonyls,  $[\text{Os}_x(\text{CO})_y]$ , 4639

**COBALOXIME**

Formation and structure of inclusion complexes involving  $\alpha$ -cyclodextrin and alkyl(aqua)cobaloxime, 4425

**COBALT**

Structure of the double salt  $[\text{Co}^{\text{II}}(\text{Cl})\text{L}^3]\text{Cl}-[\text{Co}^{\text{III}}(\text{CO})_3\text{L}^3]\text{Cl}$  ( $\text{L}^3 = (2R,5R,8R,11R)-1,7\text{-dibenzyl-2,5,8,11-tetraethyl-1,4,7,10-tetraazacyclododecane}$ ) and related species, 45

Facile one-step synthesis of the cobalt(II) and nickel(II) tertiary arsine complexes  $[\text{M}_3(\text{AsMe}_2)_2]$  ( $\text{M} = \text{Co}$  or  $\text{Ni}$ ) directly from the powdered elemental metals, 157

Synthesis and stereochemistry of cobalt(III) complexes containing purine-6-thione and related ligands, 305

Kinetics and mechanism of the cobaloxime(II)-catalysed oxidation of 2-aminophenol by dioxygen. A phenoxazinone synthase model involving free-radical intermediates, 473

Synthesis and structural characterisation of new copper-tellurium clusters:  $\text{TeBu}^+(\text{SiMe}_2)$  as a source of  $\text{RTe}^-$  and  $\text{Te}^{2-}$  ligands, 729

A route to the dispersion of ultrafine cobalt particles on zeolite Na-X through salt occlusion and reduction, 775

**COBALT (contd)**

Kinetics and mechanism of the oxidation of L-ascorbic acid by *cis*-diaqua cobalt(III) ammine complexes, 1385  
 Kinetics of oxidation of ascorbate by tetranuclear cobalt(III) complexes ('hexols') in aqueous solution, 1393  
 Synthesis of tetranuclear cobalt–molybdenum butterfly clusters with alkyne ligands: crystal structure of  $[Co_2Mo_2(\mu_2-C_2Me_2)(\mu-CO)_4(CO)_4](\eta-C_6H_{12})$ , 1437  
 Covalency in metal complexes of 1,4-diazabutadiene (dab). A density functional investigation of the electronic structures of  $[M(dab)_2]$  ( $M = Li, Ga$  or  $Co$ ) and  $[Th(NH_3)(NH_2)_2(dab)]$ , 1583  
 Electrochemical carboxylation of arylmethyl chlorides catalysed by  $[Co(salen)][H_2salen] = N,N'$ -bis(salicylidene)ethane-1,2-diamine, 1613  
 Face versus vertex co-ordination of tridentate crown thioethers to trinuclear cobalt clusters, 1875  
 Kinetic studies on the redox reactions of *Clostridium pasteurianum* rubredoxin, 2219  
 Synthesis, structure and characterization of mixed cyclopentadienyl–dithiocarbonyl metal complexes,  $[Co(\eta-C_5H_5)_2-2MeCN]_n$  and  $[Ni(\eta-C_5H_5)_2(C_5S_2)_n]$ , 2261  
 Crystal structures of  $[NEt_3H]_3[Co^{II}W_1O_{39}] \cdot 3H_2O$  ( $X = P$  or  $As$ ), 2537  
 Preparation and properties of the corner-shared double cube  $[Mo_8PbS_8(H_2O)_{18}]^{8+}$  as a derivative of  $[Mo_8S_8(H_2O)_8]^{4+}$ , 2623  
 Reaction kinetics and mechanism of formation of  $[H_4Co_2Mo_{10}O_{34}]^{6-}$  by peroxomonosulfate oxidation of  $Co^{II}$  in the presence of molybdate, 2629  
 Synthesis, acid hydrolysis and formation of the  $[(H_3N)_5CoOMoO_3]^+$  ion in aqueous solution, 2637  
 Outer-sphere redox reactions of  $[Co^{III}(NH_3)_5(H_xP_2O_7)]^{(m-3)-}$  complexes. A temperature- and pressure-dependence kinetic study on the influence of the phosphorus oxoanions, 2665  
 Gas-phase reactions of cobalt(III)  $\beta$ -ketoenolates with Brønsted acid reagents, 2727  
 Synthesis and electrochemistry of 2,3,7,8,12,13,17,18-octachloro-5,10,15,20-tetrakis(3,5-dichloro-2,6-dimethoxyphenyl)porphyrin ( $H_2tdcdmpp$ ),  $[Co^{II}(tdcdmpp)]$  and  $[M(tdcdmpp)Cl]$  ( $M = Fe^{III}$  or  $Mn^{III}$ ), 2793  
 Copper(II) and cobalt(II) complexes of methyl 2-pyridyl ketone thiosemicarbazone (HL); single-crystal structure of  $[Cu(HL)L]NCs$ , 3011  
 Eight-membered chelate-ring complexes of cobalt(III)-polyamine complexes of aminopolyporphonates in aqueous solution, 3077  
 Synthesis, structure and spectroscopic studies on hydroxy-bridged heterotrinuclear complexes of cobalt(III) with ethane-1,2-diamine and ammonia as terminal ligands, 3179  
 Preparations and structures of two *cis*,*cis*-1,3,5-triaminocyclohexane-based complexes containing hydrogen-bonded solvent molecules, 3337  
 Model complexes for the carboxylate–histidine–metal triad systems in metalloenzymes. Synthesis, crystal structures and spectroscopic properties of  $[M(Him)_2(O_2CMe)_2]$  ( $M = Zn^{II}$  or  $Co^{II}$ ,  $Him = imidazole$ ), 3465  
 Polynuclear aggregation of cobalt and manganese dichlorides. Synthesis, properties and structures of monomeric  $[CoCl_2(tmen)]$ , ionic  $[Co_2(\mu_2-Cl)_2(\mu-Cl)_2(tmen)_2]BPb_4$ , polymeric  $MnCl_2$ -tmen and tetrานuclear  $[Mn_4(\mu-Cl)_6Cl_2(tmen)_4]$  ( $tmen = Me_2NCH_2CH_2NMe_2$ ), 3469  
 Electron spin resonance study of the frozen-solution equilibrium  $[Co(S_2C_2(CF_3)_2)_2L] + L \rightleftharpoons [Co(S_2C_2(CF_3)_2)_2L_2]$  ( $L = P(OR)_3$  or  $PPh_3$ ;  $R = alkyl$ ), 3503  
 Synthesis, structural characterisation and nuclear magnetic resonance studies of cobalt complexes of pyridonate ligands, 3575  
 Synthesis and characterisation of selenoether macrocyclic complexes of  $Co^{III}$ ,  $Rh^{III}$  and  $Ir^{III}$ ; crystal structures of *trans*- $[CoBr_2([16]aneSe_4)]BPb_4$  and *trans*- $[IrBr_2([16]aneSe_4)]BPb_4$  ( $[16]aneSe_4 = 1,5,9,13$ -tetraselenacyclohexadecane), 3713  
 Influence of solvent polarity from water to toluene on the co-ordination of pyridines by the cobalt(III) corrinoid sulfitocobyrinic acid heptamethyl ester, 3721  
 Uncapped and polar capped prisms of cobalt and nickel, 3745  
 Substitution reactions of  $[Ge_2Co_4Fe_2(CO)_{21}]$  with methylgermanes, and its decarbonylation. Structures of  $[Fe_2(\mu_4-GeCo_2(CO)_6-\mu-GeMe_2)_2(CO)_7]$  and  $[Fe_2(\mu_2-GeCo(CO)_4)_2(CO)_6]$ , 3853  
 Dismantling a dinuclear metallacyclopentadiene: alkyne scission in cobalt–molybdenum clusters, 3909  
 Synthesis of the cobalt–tellurium ‘stellated’ octahedral clusters  $[Co_2(\mu_2-Te)_6(PEt_3)_n]^{n+}$  ( $n = 1$  or  $2$ ). Molecular structure of  $[Co_2(\mu_2-Te)_6(PEt_3)_2]PF_6$ , 3991  
 Formation of  $[CoPt_2Cl_2(PPh_3)_4(\mu_2-S)_2]$  from facile heterometallation of  $[Pt_2(PPh_3)_4(\mu_2-S)_2]$  and its facile deheterometallation via carbonylative desulphurization to give Pt–Pt bonded  $[Pt_2(CO)_4(PPh_3)_2(\mu-S)]$ , 4023  
 Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt

iminophosphorane complexes *via* sulfenamido rearrangement, 4063

Chloride- and dihydrogenphosphate-selective anion recognition by new acyclic mono-, bis- and tris-cobaltocenium receptors, 4129  
 Amide nitrogen co-ordination of  $Co^{II}$  and  $Ni^{II}$  in ternary 2,2'-bipyridine-containing systems. A solution and solid-state study, 4201

Synthesis, structure and reactivity of cobalt(III) complexes with tridentate imino- and amino-oxime ligands, 4269  
 Synthesis, properties and characterization of the trimuclear clusters  $[Co_3(\mu-SR)_6(PEt_3)_3]X$  ( $R = Me$  or  $Et$ ,  $X = BPh_4^-$  or  $PF_6^-$ ), 4337

Formation and structure of inclusion complexes involving  $\alpha$ -cyclodextrin and alkyl(aqua)cobaloxime, 4425

**COBALTOCENIUM**

Chloride- and dihydrogenphosphate-selective anion recognition by new acyclic mono-, bis- and tris-cobaltocenium receptors, 4129

**COBYRICINIC ACID**

Influence of solvent polarity from water to toluene on the co-ordination of pyridines by the cobalt(III) corrinoid sulfitocobyrinic acid heptamethyl ester, 3721

**COLLOID**

Ligand-stabilized metal clusters and colloids: properties and applications, 589

Stabilizing structure of tertiary amine-protected rhodium colloid dispersions in chloroform, 783

Surface-enhanced resonance-Raman scattering: an informative probe of surfaces, 791

**COMMUNICATION**

Stereoselective assembly of a new pendant-arm macrocycle, 145  
 $(Hg_2P_2)_2HgBr_4$ : A phosphorus analogue of the Millon's base salts, 147

Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149

Moderately strong antiferromagnetic exchange coupling in a dinuclear complex containing a  $\mu$ -hydroxo- $\mu$ -carboxylato-dicopper(II) core, 247

Is nickel dibromide bent in a nitrogen matrix? A combined simultaneous Fourier-transform infrared and X-ray absorption fine structure matrix isolation study, 249

Preparations and structures of a series of novel, mono-substituted *cis*,*cis*-1,3,5-triaminocyclohexane-based complexes, 401

Unexpected ring contraction in the barium-assisted cyclocondensation of 2,6-diformylpyridine and *N,N*-bis(2-aminoethyl)-2-phenylethylamine, 1181

Synthesis, crystal structure and luminescence properties of a europium(III) complex with a new planar aromatic tridentate  $N_3$  ligand, 1767

Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(I) complex, 1769

Spectroscopic titration of  $[Re_6(\mu_3-H)_6(CO)_{12}]$  with chloride ions. An electron-precise tetrานuclear cluster as intermediate in the transformation of a tetranuclear unsaturated cluster into trinuclear unsaturated anions, 1771

Macropolyhedral boron-containing cluster chemistry. *syn*- and *anti*- $[(C_5Me_5)_2Rh_2S_2B_15H_{14}(OH)]$ ; an interesting nineteen-vertex isomeric pair, 1775

Barbituric acid as a new locking fragment in macrocyclization; synthesis and structural characterization of aqua(perchlorato)-(2',4',6'-trioxohexahydro-2,4,8,11-tetraaza-cyclotetradecane)copper(II) perchlorate hydrate, 2017

Synthesis, characterisation and superoxide dismutase activity of a manganese(II) complex, 2019

Synthesis and characterization of triosmium clusters containing a nitrite ligand; crystal and molecular structures of  $[N(PPh_3)_2-[Os_3(CO)_{10}(\mu-\eta^2-NO_2)]$  and  $[Os_3(\mu-H)(CO)_{10}(\mu-\eta^2-NO_2)]$ , 2177

An unusual tetrานuclear copper(II) acetate structure with an open cubane  $Cu_4O_4$  framework, 2179

Synthesis and structure of a novel carboxylate-bridged heterometallic copper(II)–gadolinium(III) complex, 2181

Selenium insertion into a cadmium–carbon bond; synthesis and structural characterisation of the loosely linked dimer  $[(Cd(SeC=CPH)_2(tmen)]_2$  ( $tmen = Me_2NCH_2CH_2NMe_2$ ), 2183

Transition-metal complexes of 4-(4-anilino)-2,2':6,2'-terpyridine (and derivatives): versatile building blocks for construction of metallooligomers and macromolecules, 2185

Hydrogen-bond recognition of nucleosides by oligopyridine ligands and their ruthenium complexes, 2389

8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391

Formation and reactivity of a peroxide adduct of iron(III) complexes containing substituted phenolic derivatives, 2579

Mode of formation of polymeric  $[[Ru(bipy)(CO)_2]_n$  ( $bipy = 2,2'$ -bipyridine) films, 2581

Synthesis, characterisation, molecular and crystal structures of two novel osmium–palladium carbonyl clusters, 2887

Photophysics and photochemical reactivities of organocupper(I)

**COMMUNICATION (contd)**

complexes. Crystal structure of  $[\text{Cu}_2(\text{PPh}_2\text{Me})_4(\mu,\eta^{\prime}-\text{C}\equiv\text{CPh})_2]_2$ , 2889  
 Codimerisation of CO and a 1,3-diynyl-metal complex on an Ru<sub>3</sub> cluster, 3151  
 Dimetallic gold(I) and platinum(II) complexes containing a trioxoosmium(VII) moiety. Crystal structures of  $[\text{Au}(\text{PPh}_3)_2(\text{NOsO}_3)_2]$  and  $cis-[\text{Pt}(\text{PMe}_3)_2(\text{NOsO}_3)_2]$ , 3153  
 Luminescent complexes containing a gold(I) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155  
*Ab initio* structure solution of a novel aluminium methylphosphonate from laboratory X-ray powder diffraction data, 3159  
 Pentanuclear cluster of palladium(II) bridged by telluride ions: synthesis and crystal structure of  $[\text{Pd}_5(\mu_3-\text{Te})_4(\text{Ph}_3\text{PCH}_2\text{CH}_2\text{PPh}_3)]^{2+}$ , 3335  
 Preparations and structures of two *cis,cis*-1,3,5-triaminocyclohexane-based complexes containing hydrogen-bonded solvent molecules, 3337  
 Synthesis and structure of an organic-soluble cage alumino-phosphonate, 3609  
 Rapid and mild synthesis of  $[\text{Re}_2(\text{CO})_{10}]$  by reduction of  $[\text{NH}_3][\text{ReO}_4]$  at atmospheric CO pressure, 3611  
 Uncapped and polar capped prisms of cobalt and nickel, 3745  
 Cyclic oxacarborane complexes of the cycloheptatrienylmolybdenum auxiliary MoL( $\eta^3-\text{C}_7\text{H}_7$ ), L = CO or P-donor ligand: isolation and subsequent cyclisation of a hydroxyvinylidene intermediate, 3893  
 Dismantling a dinuclear metallacyclopentadiene: alkyne scission in cobalt-molybdenum clusters, 3909  
 Synthesis, characterisation and molecular structure of a triruthenium carbonyl cluster containing both phenylimido and nitrobenzene ligands, 3911  
 On the design of high co-ordination number metal-based liquid crystals: mesomorphic bipyridine complexes of rhenium(I), 3913  
 Preparation and crystal structure of  $[(\text{AlBr}_3)_2(\text{Se}_2\text{N}_2)]$ , the first example of a main-group element adduct of diselenium dinitride, 4029  
 A chiral tetrานuclear platinum(II) cluster complex,  $[\text{Pt}_4(\text{O}_2\text{CMe})_4(\text{proline})_4]$  (Hpro = L-proline), 4031  
 Synthesis and characterisation of the chloride-bridged copper-ruthenium cluster dianion  $[\{\text{Ru}_2\text{Cu}_2\text{C}(\text{CO})_{16}\}_2\text{Cl}_2]^{2-}$ , 4033  
 New class of mixed sandwich cycloheptatrienylchromium complex: crystal structures of the redox pair  $[\text{Cr}(\eta^3-\text{C}_7\text{H}_5\text{Me})-(\eta^3-\text{C}_7\text{H}_5\text{Me}-4)][\text{PF}_6]_n$  ( $n = 1$  or 2), 4035  
 Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxodiiron(III)) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037  
 Entrapment of a Pt-H bond by a cavity-shaped receptor, 4041  
 Synthesis, characterisation and electrochemistry of the novel ferrocenyldieneetriosmium cluster  $[\text{Os}_3(\text{CO})_9\{\mu_3-\eta^3-\text{Fe}(\text{C}_6(\text{SiMe}_3)_2)\}_3]$ , 4147  
 Camphor-based  $\beta$ -hydroxyphosphoryl ligands and their complexes of the type  $[\text{Mo}(\text{O}_2\text{C})_2\text{L}(\text{H}_2\text{O})_2]$ , 4149  
 Alkaline-earth-metal arenesulfonates as precursors to organic derivatives of Group 2 metals, 4151  
 Build-up of an Al<sub>4</sub>P<sub>6</sub>Li<sub>4</sub> cage from an Al<sub>4</sub>N<sub>4</sub> cubane: synthesis and structure of  $[\{\text{Li}(\text{OC}_2\text{H}_5)_3\}_4\{\{\text{AlMe}\}(\mu-\text{P}(\text{C}_2\text{H}_5)_3)\}_2\{\mu-\text{P}(\text{C}_2\text{H}_5)_3\}_2\cdot\text{C}_2\text{H}_5\text{Me}$ , 4153  
 Macropolyhedral boron-containing cluster chemistry: nineteen-vertex  $[(\text{PPh}_3)_2\text{NiS}_2\text{B}_{16}\text{H}_{12}(\text{PPh}_3)]$  and eighteen-vertex  $\text{S}_2\text{B}_{16}\text{H}_{14}(\text{PPh}_3)$ , 4155  
 Novel structural forms for imidoamides and oxoalkoxides of bismuth, 4159  
 Synthesis and structural characterisation of  $[\text{Pd}_2(\mu-\text{Br})_2(\text{PBu}'_3)_2]$ , an example of a palladium(I)-palladium(I) dimer, 4313  
 Heteropolymetallic aggregates from  $[\text{Pd}_2(\text{dppf})_2(\mu-\text{S})_2]$ . Bonding and structural analysis of  $[\text{Ag}_2\text{Pd}_2\text{Cl}_2(\text{dppf})(\mu_3-\text{S})_2]\cdot4\text{CH}_2\text{Cl}_2$  [ $\text{dppf} = \text{Fe}(\text{C}_5\text{H}_5\text{PPh}_2)_2$ ] — flat  $[\text{Pd}_2\text{S}_2]$  core with two AgCl 'tails', 4315  
 New preparative access to and the crystal and molecular structures of *cis*- $[\text{PdCl}_2(\text{CO})_2]$ , 4317  
 Use of  $[\text{Ru}(\eta^3-\text{C}_7\text{H}_7)(\text{MeCN})_3]^{+}$  as a capping reagent in cluster build-up: synthesis and structural characterisation of  $[\text{Os}_2\text{Ru}_2(\text{CO})_8(\eta^3-\text{C}_7\text{H}_7)_2]$ , 4509  
 Mixed co-ordination numbers and geometries of gold(I) in a dinuclear complex of thioglycerol, 4511  
 Bridged bis(imido)molybdenum complexes: isolobal analogues of *ansa*-zirconocenes and bizirconocenes, 4513

**CONDUCTIVITY**

Isolation, structure and spectroscopic properties of  $[\text{Re}_2(\text{C}_2\text{S}_3)_5]^{2-}$  complexes and electrical conductivities of their oxidized species, 1539

**CONFORMATION**

Conformational trends in arsocane dithiophosphinates  $\text{X}(\text{CH}_2\text{CH}_2\text{S})\text{AsS}_2\text{PR}_2$  ( $\text{X} = \text{O}$  or  $\text{S}$ ;  $\text{R} = \text{Me}$ , Et or Ph), 4135

**COPOLYMERISATION**

New atropisomeric bidentate nitrogen-donor compounds as

potential stereocontrollers in mild CO-styrene copolymerisation catalysed by palladium(II) salts, 1021

**COPPER**

Structure and properties of  $\text{SrCu}(\text{OH})_2\text{H}_2\text{O}$ , 7  
 Crystal structure and spin-doublet electron spin resonance of a magnetically coupled di( $\mu$ -phenoxo)-copper(II)nickel(II) complex, 25  
 Stereoselective assembly of a new pendant-arm macrocycle, 145  
 Copper(I) and - (II) complexes of a macrocycle derived from 2:2 condensation of pyridine-2,6-dicarbaldehyde and 4-azahexane-1,7-diamine; oxygenation of the copper(I) complex, 167  
 A reinforced polyaza[n,n]paracyclophane containing piperazine rings, 239  
 Moderately strong antiferromagnetic exchange coupling in a dinuclear complex containing a  $\mu$ -hydroxo- $\mu$ -carboxylato-dicopper(II) core, 247  
 Structure, characterisation and dynamics of copper(I) complexes of 2,6-bis(3,5-dimethylpyrazol-1-ylmethyl)pyridine, 371  
 Preparations and structures of a series of novel, mono-substituted *cis,cis*-1,3,5-triaminocyclohexane-based complexes, 401  
 Preparation and reactivities of chiral manganese(III) and copper(II) complexes of binaphthyl Schiff bases, 405  
 Synthesis and characterization of the centred icosahedral cluster series  $[\text{Au}_8\text{M}^{18}\text{Cl}_4(\text{PMePh}_2)_4][\text{C}_2\text{B}_9\text{H}_{12}]$ , where  $\text{M}^{18} = \text{Au}, \text{Ag}$  or  $\text{Cu}$ , 491  
 Solid state and solution structures of two structurally related dicopper complexes with markedly different redox properties, 533  
 Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_2\text{H}_2(\mu-\text{dppf})(\text{CO})_2]$  [ $\text{M} = \text{M}' = \text{Cu}, \text{Ag}$  or  $\text{Au}$ ;  $\text{M} = \text{Cu}, \text{M}' = \text{Au}$ ;  $\text{dppf} = \text{Fe}(\eta^3-\text{C}_6\text{H}_4\text{PPh}_2)_2$ ] and the crystal structures of  $[\text{MM}'\text{Ru}_2\text{H}_2(\mu-\text{dppf})(\text{CO})_2]$  ( $\text{M} = \text{Cu}$  or  $\text{Au}$ ,  $\text{M}' = \text{Au}$ ), 643  
 Synthesis and structural characterisation of new copper-tellurium clusters:  $\text{TeBu}^+(\text{SiMe}_3)$  as a source of  $\text{RTe}^-$  and  $\text{Te}^{2-}$  ligands, 729  
 Deprotonation and self-assembly of a symmetric oxamidate-bridged dinuclear copper(II) complex involving imidazole moieties, 861  
 1-Hydroxyalkane-1,1-diylidiphosphonates as potent chelating agents for metal ions. Potentiometric and spectroscopic studies of copper(II) co-ordination, 1119  
 New silica-gel-bound polazacycloalkanes and characterization of their copper(II) complexes using electron spin resonance spectroscopy, 1209  
 Structural variations in nickel(II) and copper(II)  $\text{MN}_4$  Schiff-base complexes with deprotonated tetradentate  $N,N'$ -bis(5-amino-pyrazol-4-ylmethylene)polymethylenediamine ligands, 1215  
 Electronic structure of thiaphororphins: an X-ray photoelectron spectroscopic study, 1255  
 Stabilisation of unusual simultaneous binding of four cytosine nucleobases to copper(II) by a novel network of bifurcated hydrogen bonding, 1333  
 Fluxionality in polyneutral copper(II) complexes containing aminoalcoholate ligands: syntheses, crystal structures, and  $^1\text{H}$  nuclear magnetic resonance studies, 1341  
 Polynuclear pyrazolate complexes. Synthesis, chemical reactivity and crystal structures of  $[\text{Pd}(\text{dmpz})_2(\text{Hdmpz})_2]$  and  $[\text{PdAg}_2(\text{dmpz})_2]$  ( $\text{Hdmpz} = 3,5$ -dimethylpyrazole), 1351  
 Conformational change of the  $N,N'$ -bis(3-aminopropyl)oxamidate ligand in nuclearity tailoring copper(II) complexes, 1359  
 Efficient and selective up-hill transport of anions by pH-induced affinity switching of a copper complex carrier, 1367  
 A potentiometric and spectroscopic study of copper(II) diamino-dioxime complexes, 1373  
 One-, two- and three-dimensional copper(I) and silver(I) complexes of 2,11-dithia[3.3]paracyclophane, 1525  
 Synthesis and crystal structures of some bis-benzimidazoles, -benzothiazoles and -benzoxazoles by an alternative route: their complexation with copper(II) salts, 1531  
 Raman spectroelectrochemical studies and crystal structure of a binuclear copper(II) complex with a bridging diimine ligand, 1591  
 Synthesis and characterization of alkoxo-oxygen-bridged copper(II) complexes having disc- and rod-like shapes, 1761  
 Heteronuclear Pt-Pd, Pt-Cu and Pt-Ni complexes with bridging acetamide: crystal structures and spectroscopic studies, 1823  
 Syntheses, structures and electrochemical properties of single and double helical inorganic complexes containing new polypyridine ligands, 1829  
 Synthesis, magnetic behaviour and structural characterization of the alternating hexanuclear copper(II) compound  $[\text{Cu}_6(\text{tmnen})_6(\mu-\text{N}_3)_6(\mu-\text{C}_6\text{O}_4)_6(\text{H}_2\text{O})_6]\text{ClO}_4 \cdot 2\text{H}_2\text{O}$  ( $\text{tmnen} = \text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2$ ), 1835  
 Crystal structure of a copper(II)-famotidine complex and solution studies of the  $\text{Cu}^{2+}$ -famotidine-histidine ternary system, 1905  
 Photoinduced electron transfer between  $[\text{Cu}(\text{dmphen})\text{L}_2]^+$

**COPPER (contd)**

[dmphen = 2,9-dimethyl-1,10-phenanthroline, L =  $\text{PPh}_n(\text{C}_6\text{H}_4\text{OMe}-p)_3$ , ( $n = 0-5$ )] and methyl viologen, 1909  
 Discrete dinuclear and polymeric copper(II) cations bridged by 4,4'-bipyridine, *trans*-1,2-bis(4-pyridyl)ethene or bis(4-pyridyl) disulfide, 1947  
 Barbituric acid as a new locking fragment in macrocyclization; synthesis and structural characterization of aqua(perchlorato)-(2',4',6'-trioxohexahydroxypyrimidine-5'-spiro-6-1,4,8,11-tetraaza-cyclotetradecane)copper(II) perchlorate hydrate, 1917  
 Self-assembly of copper(II) complexes into three-dimensional coordination polymers with channel networks by hydrogen bonding or by tridentate ligands, 2031  
 Copper(I) and (II) complexes with tertiary linear polyamines of the type  $\text{Me}_2\text{NCH}_2(\text{CH}_2\text{NMeCH}_2)_n\text{CH}_2\text{NMe}_2$  ( $n = 1-4$ ), 2055  
 Synthesis, structure, spectra and redox interconversions in copper(II) complexes of 5,6-diphenyl-3-(2-pyridyl)-1,2,4-triazine, 2061  
 Synthesis of sterically hindered bis(imidazole) proligands and an exploration of their co-ordination chemistry with copper(II), 2101  
 An unusual tetrานuclear copper(II) acetate structure with an open cube  $\text{Cu}_4\text{O}_4$  framework, 2179  
 Synthesis and structure of a novel carboxylate-bridged heterometallic copper(II)-gadolinium(III) complex, 2181  
 Formation of axial phenolate-metal bonds in square-pyramidal complexes, 2233  
 Crystal structures and superoxide dismutase mimetic activity of  $[\text{CuL}_2(\text{Him})_2]\text{MeOH}$  and  $[\text{CuL}_2(\text{mim})_2]\text{H}_2\text{O}$  [ $\text{HL} = 4\text{-amino-N-(thiazol-2-yl)benzenesulfonamide}$ , Him = imidazole, mim = N-methylimidazole], 2239  
 Oxidation of the pyrazine(pyz)-bridged polymeric copper(I) cation  $[\text{Cu}(\text{cnge})(\text{MeCN})(\text{pyz})]^+$  by  $\text{NOBF}_4$  and formation of the corresponding copper(II) cation  $[\text{Cu}(\text{MeCN})_4(\text{pyz})]^{2+}$  (cnge = 2-cyanoguanidine), 2233  
 Synthesis and photophysics of tetranuclear copper(I) acetylides. Crystal structure of  $[\text{Cu}_4(\text{P}(\text{C}_6\text{H}_4\text{Me}-p)_3)_4(\mu_3-\eta^1-\text{C}\equiv\text{CPh})_4]$ , 2335  
 Novel octadecanuclear copper(II)-lanthanoid(III) clusters. Synthesis and structures of  $[\text{Cu}_{12}\text{Ln}_6(\mu_3-\text{OH})_2(\text{O}_2\text{CCCH}_2\text{CH}_2\text{NC}_2\text{H}_5)_2(\text{H}_2\text{O})_{16}(\mu_{12}-\text{ClO}_4)_2][\text{ClO}_4]_{17}\cdot16\text{H}_2\text{O}$  ( $\text{Ln}^{\text{III}} = \text{Gd}^{\text{III}}$  or  $\text{Sm}^{\text{III}}$ ), 2443  
 On the electronic structures and spectra of  $\text{NiCl}_2$  and  $\text{CuCl}_2$ , 2601  
 Novel, selective and co-operative assembly of cyclodextrins around [1,8-bis(pyridin-2-yl)-3,6-dithiaoctane]copper(II), 2609  
 Synthesis, crystal structure and non-linear optical properties of two new cluster compounds,  $[\text{MoCu}_4\text{OS}_3(\text{PPh}_3)_3(\text{S}_2\text{P}(\text{OBu})_2)_2]$  and  $[\text{MoAg}_3(\text{PPh}_3)_3(\text{S}_2\text{P}(\text{OBu})_2)_2]$ , 2617  
 Synthesis and solution complexation behaviour of tetradentate diamines with hard phosphinate donors, 2693  
 Chelating behaviour of methyl 2-pyridyl ketone carbono- and thiocarbono-hydrazones in copper(II) and zinc(II) complexes, 2699  
*Ab initio* X-ray powder diffraction structural characterization of co-ordination compounds polymeric  $[(\text{MX}_2(\text{bipy}))_n]$  complexes ( $\text{M} = \text{Ni}$  or  $\text{Cu}$ ;  $\text{X} = \text{Cl}$  or  $\text{Br}$ ; bipy = 4,4'-bipyridyl), 2739  
 Photophysics and photochemical reactivities of organocupper(I) complexes. Crystal structure of  $[\text{Cu}_2(\text{PPh}_3\text{Me})_4(\mu,\eta^1-\text{C}\equiv\text{CPh})_2]$ , 2889  
 Reactions of electrophiles with  $[(\text{Bu}'\text{N})\text{Re}^{\text{VI}}(\mu-\text{NBu}')_2]$ , 2995  
 Asymmetric copper complexes of stable mono-*tert*-butyl monobenzyl dithioether  $\text{N}_2\text{S}_2$  ligands, 3001  
 Copper(II) and cobalt(II) complexes of methyl 2-pyridyl ketone thiosemicarbazone (HL); single-crystal structure of  $[\text{Cu}(\text{HL})\text{L}]\text{NCS}$ , 3011  
 Magnetic and optical characterization of one-dimensional isostructural  $\sigma$ -bonded tetracyanoquinodimethano complexes of nickel(II) and copper(II), 3015  
 Thiophene-linked azacryptand sites for dicopper and disilver; thiophene sulfur as an inert spacer?, 3021  
 Copper(II) complexes with cyclo( $\text{l}$ -aspartyl- $\text{l}$ -aspartyl) and cyclo( $\text{l}$ -glutamyl- $\text{l}$ -glutamyl) derivatives and their antioxidant properties, 3093  
 Synthesis and structures of copper(II) anion-bridged aggregates and chains: control over molecular shape, 3173  
 Cascade complexation of pseudo-halide by dicopper cryptates: a linear Cu-NNN-Cu unit, 3227  
 Syntheses of new copper(II) mixed-ligand complexes and their chromotropic properties in solution and in the solid state, 3251  
 Co-ordination of copper(II) ions by prolyl- $\alpha$ , $\beta$ -dehydroamino acids: comparative studies and general considerations, 3265  
 Ultraviolet-circular dichroism spectra for structural analysis of copper(II) complexes with aliphatic and aromatic ligands in aqueous solution, 3269  
 Synthesis, structure, photophysics, time-resolved emission spectroscopy and electrochemistry of luminescent copper(I) acetylidyne complexes, 3283  
*meso*-Substituted octabromoporphyrins: synthesis, spectroscopy, electrochemistry and electronic structure, 3429  
 Structure of copper(II) complexes with L-leucyl-D- or L-leucyl-L-phenylalanine and molecular orbital calculations on their stabilization, 3449

Synthesis and crystal structures of heterobimetallic 2-(diphenylphosphino)pyridine complexes containing an  $\text{Fe} \rightarrow \text{M}$  ( $\text{M} = \text{Cu}^{\text{I}}$ ,  $\text{Ag}^{\text{I}}$  or  $\text{Hg}^{\text{II}}$ ) donor-acceptor bond and a mononuclear iron(II) complex bearing a pair of planar strained four-membered chelate rings, 3475

Synthesis and structural characterization of the new quadridentate  $N_3S$ -compound di-2-pyridyl ketone thiosemicarbazone and its binuclear copper(II) complexes, 3485

Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating  $\text{O}_4\text{N}_2^-$ ,  $\text{O}_2\text{S}_2\text{N}_2^-$  and  $\text{S}_2\text{N}_2^-$ -donor sets, 3591

Structurally diverse copper(II) herbicide complexes: mono- and bi-nuclear neutral or cationic complexes, 3737  
 Role of bifunctional N/S bridging in the association of metals; syntheses and structures of heterobimetallic  $[(\text{Ph}_3\text{P})\text{CuL}_2\text{Li}(\text{thf})_2]^+$  and tetratomic  $[(\text{Cu}(\text{Ph}_3\text{P}))_4]$  ( $\text{L} = 1,3\text{-benzoxazoline-2-thionate}$ , thf = tetrahydrofuran), 3793

A pyrazolate-bridged cyclic tetrานuclear copper(II) complex: synthesis, crystal structure and magnetic properties, 3799

Intramolecular electron transfer in linear trimuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyano-manganese ligands, 3977

Synthesis and characterisation of the chloride-bridged copper-ruthenium cluster dianion  $[(\text{Ru}_6\text{Cu}_2\text{Cl}(\text{CO})_{16})_2\text{Cl}_2]^{2-}$ , 4033

Synthesis, structural characterisation, electron paramagnetic resonance and magnetic studies of homoleptic copper complexes of pyridonate ligands, 4077

Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphathia ligands and their chalcogenide derivatives, 4099

Structural and spectroscopic studies on 36-membered ring arrays formed by copper(II) halides with 1-(4-picoly)pyrrolidin-2-one, 4245

Crystal structure, magnetic properties and spectroscopic studies of bis[1,3-bis(pyrazol-3-yl)triazenido]dicopper(II) trihydrate: a dinuclear complex with an asymmetric double pyrazolate bridge, 4275

Nitrato- and nitrite-ligated 3,6-bis(imidazolyl)pyridazine-bridged dinuclear copper(II) cations with copper-copper separations similar to that in *Achromobacter cycloclastes* nitrite reductase, 4295

Crystal structures of nickel, copper and zinc naphthalocyaninates, 4303

N-Methylation of diamino-substituted macrocyclic complexes: intermolecular reactions, 4319

N-Methylation of diamino-substituted macrocyclic complexes: intramolecular cyclisation, 4325

Solution studies of copper(II) complexes as models for the active site in galactose oxidase, 4331

Characterization and superoxide dismutase activity of copper(II) complexes of 6A,6X-disfunctionalized  $\beta$ -cyclodextrins, 4351

Tetraaza macrocycles containing pyridine and their copper(II) and nickel(II) complexes: X-ray, spectroscopic, molecular mechanics and molecular orbital studies, 4543

A potentiometric and spectroscopic study of copper(II) diamiodiamino complexes, 4605

**CORRINOID**

Influence of solvent polarity from water to toluene on the co-ordination of pyridin- $\beta$ s by the cobalt(III) corrinoid sulfitocobyrinic acid heptamethyl ester, 3721

**CORROLATE**

First-row transition-metal complexes of corroles: synthesis and characterization of oxotitanium(IV) and oxovanadium(II) complexes of  $\beta$ -alkylcorroles (1995, 3617), 553

**COVALENCY**

Covaency in metal complexes of 1,4-diazabutadiene (dab). A density functional investigation of the electronic structures of  $[\text{M}(\text{dab})_2]$  ( $\text{M} = \text{Li}$ ,  $\text{Ga}$  or  $\text{Co}$ ) and  $[\text{Th}(\text{NH}_3)(\text{NH}_2)_2(\text{dab})]$ , 1583

**CROWN ETHER**

Intercalation of 1,4,10,13-tetraoxa-7,16-diazacyclooctadecane by  $\alpha$ - and  $\gamma$ -zirconium phosphates, 1245

On the nature of the interaction between potassium ions and bis(crown ether) derivatives as revealed by low-temperature carbon-13 nuclear magnetic resonance spectroscopy, 1455

Spectrophotometric study of the complexation of iodine with macrocycles in chloroform solution, 2215

Molecular structure of novel polymer-like complexes of armed-azacrown ethers with alkali-metal cations, 3871

Ruthenium(II) complexes of some new polynucleating ligands incorporating terpyridyl and macrocyclic aza-crown binding sites, 4249

**CROWN THIOETHER**

Face *versus* vertex co-ordination of tridentate crown thioethers to trinuclear cobalt clusters, 1875

**CRYPTAND**

Spectrophotometric study of the complexation of iodine with macrocycles in chloroform solution, 2215

**CRYPTAND (contd)**

Thiophene-linked azacryptand sites for dicopper and disilver; thiophene sulfur as an inert spacer?, 3021  
 Cascade complexation of pseudo-halide by dicopper cryptates: a linear Cu<sub>n</sub>NNN-Cu unit, 3227  
 Synthesis and spectroscopy of unsymmetric mononuclear lanthanide cryptates. Structure of two europium(III) cryptates co-existing in the same crystal [EuL(OH)<sub>2</sub>]<sub>n</sub>[Eu(HL)(NCS)]·9H<sub>2</sub>O·2MeCN·EtCN·EtOH (H<sub>2</sub>L = a phenol-bridged N<sub>4</sub>O<sub>3</sub> Schiff-base cryptand), 3883

**CRYSTAL PACKING**

Concerted supramolecular motifs: linear columns and zigzag chains of multiple phenyl embraces involving Ph<sub>4</sub>P<sup>+</sup> cations in crystals, 3755

**CRYSTAL STRUCTURE**

Synthesis and crystal structures of the new ternary nitrides Sr<sub>2</sub>CrN<sub>3</sub> and Ba<sub>2</sub>CrN<sub>3</sub>, 1  
 Structure and properties of SrCu(OH)<sub>4</sub>·H<sub>2</sub>O, 7  
 Crystal structure and spin-doublet electron spin resonance of a magnetically coupled di( $\mu$ -phenoxy)-copper(II)-nickel(II) complex, 25  
 Synthesis, structure and characterisation of amido derivatives of [9]aneN<sub>3</sub> (1,4,7-triazacyclononane), 31  
 Structure of the double salt [Co<sup>II</sup>(Cl)<sub>4</sub>L]<sup>2+</sup>[Co<sup>III</sup>(CO<sub>3</sub>)L]<sup>3-</sup> [L<sup>3</sup> = (2R,5R,8R,11R)-1,7-dibenzyl-2,5,8,11-tetraethyl-1,4,7,10-tetraazacyclododecane] and related species, 45  
 Reaction of (Me<sub>2</sub>SiNSN<sub>3</sub>)<sub>2</sub> with palladium complexes; crystal structures of [PPh<sub>4</sub>]<sub>2</sub>[Pd<sub>2</sub>Br<sub>4</sub>(S<sub>2</sub>N<sub>2</sub>)] and [PPh<sub>4</sub>]<sub>2</sub>[PdBr<sub>2</sub>(S<sub>2</sub>N<sub>2</sub>)], 53

Preparation, crystal structure and mechanism of formation of a novel dinuclear carbopentazane complex,



Preparation of bis( $\mu$ -selenocarboxylato)-nickel(II), -palladium(II) and -platinum(II) complexes and their crystal structure analysis, 79

Structure, characterization and photoreactivity of monomeric dioxovanadium(V) Schiff-base complexes of trigonal-bipyramidal geometry, 93

Chemistry of oxovanadium(V) alkoxides: synthesis and structure of mononuclear complexes incorporating ethane-1,2-diol, 99  
 Synthesis, crystal structure and molecular orbital investigation of the first platinum complex of piroxicam, 111

Reactions of the unsaturated alkyne cluster [Os<sub>3</sub>(CO)<sub>7</sub>( $\mu$ -η<sup>2</sup>( $\perp$ )-Ph<sub>2</sub>C<sub>6</sub>Ph)(dppm)] with P-donors; crystal structures of [Os<sub>3</sub>(CO)<sub>7</sub>(Ph<sub>2</sub>C<sub>6</sub>Ph)(dppm)][P(OMe)<sub>3</sub>] and two isomers of [Os<sub>3</sub>(CO)<sub>7</sub>(Ph<sub>2</sub>C<sub>6</sub>Ph)(dppm)[PBu<sub>3</sub>]] (dppm = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>), 117

Tripodal amido-titanium and -zirconium complexes containing a triisilylslane-derived ligand framework, 125

A halide-free route to Groups 12 and 13 organometallic and metalloorganic complexes, 133

Stereoselective assembly of a new pendant-arm macrocycle, 145  
 (Hg<sub>2</sub>P<sub>2</sub>)HgBr<sub>4</sub>: A phosphorus analogue of the Millon's base salts, 147

Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149

Facile one-step synthesis of the cobalt(III) and nickel(III) tertiary arsine complexes [M<sub>3</sub>(AsMe<sub>2</sub>)<sub>2</sub>] (M = Co or Ni) directly from the powdered elemental metals, 157

Copper(I) and (II) complexes of a macrocycle derived from 2:2 condensation of pyridine-2,6-dicarbaldehyde and 4-azaheptane-1,7-diamine; oxygenation of the copper(I) complex, 167

Phosphine-participated formation and crystal structures of nickel complexes with 2-sulfanylphenol and phosphine ligands, 177

Molybdenum(VI) imidodisulfur complexes formed via double sulfur-carbon bond cleavage of dithiocarbamates, 183

Selectivity design using interligand contact: solvent extraction and structures of first-series-transition metal-bis(pyrazol-1-yl)borate complexes, 195

Nuclear magnetic resonance studies of molecular dynamics at below-ambient temperatures and crystal structures, 203

Preparation and structures of some new pyrrolidinido- and piperidinido-alanes and -aluminates, 211

Group 4 metal alkoxide complexes as catalysts for olefin polymerization, 219

Synthesis and characterisation of *pseudocloso* iridium and ruthenium diphenyl carbaboranes. Molecular structures of 1,2-Ph<sub>2</sub>-3-( $\eta$ -C<sub>6</sub>H<sub>5</sub>)-3,1,2-*pseudocloso*-Ru<sub>2</sub>B<sub>9</sub>H<sub>9</sub> and 1,2-Ph<sub>2</sub>-3-(cym)-3,1,2-*pseudocloso*-Ru<sub>2</sub>B<sub>9</sub>H<sub>9</sub> (cym = *p*-cymene) and individual gauge for localised orbitals calculations on carbametallaboranes, 231

Moderately strong antiferromagnetic exchange coupling in a dinuclear complex containing a  $\mu$ -hydroxo- $\mu$ -carboxylato-dicopper(II) core, 247

Pentamethylcyclopentadienyl imido compounds of chromium, 271  
 Structural characterization of spherical octadecavanadates encapsulating Cl<sup>-</sup> and H<sub>2</sub>O, 283

Formation of *N*-imidoylimidatoruthenium(II) complexes via ruthenium-promoted hydration of nitriles, 291

Synthesis and stereochemistry of cobalt(III) complexes containing purine-6-thione and related ligands, 305  
 Preparation and characterization of dialkylcarbamato derivatives of niobium and tantalum, 311

Diiron(II) and polymeric iron(II)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties, 321

Synthesis, characterisation and molecular structures of the *closo* and *pseudocloso* heptamethylindenyl carborhodaboranes 1-Ph-3-( $\eta$ -C<sub>6</sub>Me<sub>5</sub>)-3,1,2-*closo*-Rh<sub>2</sub>B<sub>9</sub>H<sub>10</sub> and 1,2-Ph<sub>2</sub>-3-( $\eta$ -C<sub>6</sub>Me<sub>5</sub>)-3,1,2-*pseudocloso*-Rh<sub>2</sub>B<sub>9</sub>H<sub>9</sub>. Experimental assignment of the <sup>11</sup>B NMR spectrum of a *pseudocloso* carbametallaborane, 335

Tuning of the electrochemical recognition of substrates as a function of the proton concentration in solution using pH-responsive redox-active receptor molecules, 343

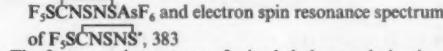
Improved syntheses, structures, spectral and electrochemical properties of [Mn<sup>III</sup>( $\mu$ -O)( $\mu$ -O<sub>2</sub>CMe)<sub>2</sub>L]<sup>2+</sup> and [Mn<sup>IV</sup>( $\mu$ -O)<sub>2</sub>L]<sup>2+</sup> complexes. Two homologous series derived from eight N-substituted 1,4,7-triazacyclonananes, 353

Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters [Mo<sub>4</sub>E<sub>4</sub>(edta)]<sup>3-</sup> (E = S or Se; H<sub>2</sub>edta = ethylenediaminetetraacetic acid) and [Mo<sub>4</sub>S<sub>4</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>5+</sup>, 363

Structure, characterisation and dynamics of copper(I) complexes of 2,6-bis(3,5-dimethylpyrazol-1-yl-methyl)pyridine, 371

Synthesis of new half-sandwich ruthenium complexes containing 1,2-bis(diisopropylphosphino)ethane (dippe); crystal structures of [Ru(C<sub>6</sub>Me<sub>5</sub>)Cl(dippe)] and [Ru(C<sub>6</sub>Me<sub>5</sub>)(O<sub>2</sub>)(dippe)][BPh<sub>4</sub>]<sub>2</sub>, 377

An improved synthesis of SF<sub>5</sub>(CN) and its cycloaddition reaction with SNSAsF<sub>6</sub>. Crystal structure of



The first crystal structures of mixed chalcogen derivatives SnR<sub>2</sub>[OPPh<sub>3</sub>][SPPh<sub>2</sub>N]<sub>2</sub> (R = Me or Ph), 391

Preparations and structures of a series of novel, mono-substituted *cis*,*cis*-1,3,5-triaminocyclohexane-based complexes, 401

Preparation and reactivities of chiral manganese(III) and copper(II) complexes of biphenyl Schiff bases, 405

Synthesis and reactivity of  $\eta^2$ (4e)-alkyne and  $\eta^2$ (3e)-vinyl complexes of rhenium, 415

Synthesis and properties of some gallium amide complexes [GaX<sub>2</sub>L<sub>3-y</sub>]<sup>-</sup> [X = Me, Et or Cl; L = RNCR'NR (R, R' = H, alkyl or aryl); y = 0-2]. Crystal structures of

[GaMe<sub>2</sub>(PhNCPhNPh)] and [GaMe<sub>2</sub>(PhNCPhNPh)<sub>2</sub>], 431

Reactions of tin tetrachloride with diethyl glutarate. Crystal structures of [Sn<sub>2</sub>Cl<sub>6</sub>{ $\mu$ -C<sub>6</sub>H<sub>6</sub>(CO<sub>2</sub>Et)<sub>2</sub>}]<sub>2</sub>·2CH<sub>2</sub>Cl<sub>2</sub> and *cis*-[SnCl<sub>4</sub>(H<sub>2</sub>O)<sub>2</sub>]<sub>2</sub>·C<sub>6</sub>H<sub>6</sub>(CO<sub>2</sub>Et)<sub>2</sub>, 439

Cationic, arylbismuth(III) complexes of the form [BiR<sub>2</sub>L]<sup>+</sup> and [BiR<sub>4</sub>]<sup>2+</sup> where L is a neutral two-electron donor ligand, 443

Cationic, four-co-ordinate, bis(organotransition metal)bismuth(III) complexes, 455

Syntheses, characterization and molecular structures of monomeric selenolato complexes of mercury with nitrogen-containing chelating ligands, 461

Complexes of rhodium with thiobis(ethylenenitrilo)tetraacetic acid; a potential bifunctional chelate for use in radiotherapy, 467

The novel structure of the [Au<sub>11</sub>(PMePh<sub>2</sub>)<sub>10</sub>]<sup>3+</sup> cation: crystal structures of [Au<sub>11</sub>(PMePh<sub>2</sub>)<sub>10</sub>]<sub>2</sub>[C<sub>2</sub>B<sub>9</sub>H<sub>12</sub>]<sub>3</sub>·4thf and [Au<sub>11</sub>(PMePh<sub>2</sub>)<sub>10</sub>]<sub>2</sub>[C<sub>2</sub>B<sub>9</sub>H<sub>12</sub>]<sub>3</sub> (thf = tetrahydronaphthalene), 479

Synthesis and characterization of the centred icosahedral cluster series [Au<sub>18</sub>M<sup>18</sup>Cl<sub>4</sub>(PMePh<sub>2</sub>)<sub>6</sub>][C<sub>2</sub>B<sub>9</sub>H<sub>12</sub>]<sub>3</sub>, where M<sup>18</sup> = Au, Ag or Cu, 491

Heteroleptic poly(pyrazolyl)borate derivatives of the lanthanides. Structural and electronic spectral studies of some salicylaldehyde complexes, 501

Asymmetric functionalisation of aza macrocycles. Syntheses, crystal structures and electrochemistry of

[Ni(Bz[9]aneN<sub>3</sub>)<sub>2</sub>][PF<sub>6</sub>]<sub>2</sub> and [Pd(Bz[9]aneN<sub>3</sub>)<sub>2</sub>][PF<sub>6</sub>]<sub>2</sub>·2MeCN (Bz[9]aneN<sub>3</sub> = 1-benzyl-1,4,7-triazacyclonane), 525

Solid state and solution structures of two structurally related dicopper complexes with markedly different redox properties, 533

Preparations and crystal structures of Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)<sub>2</sub>(C<sub>5</sub>S<sub>5</sub>) and [Q]<sub>2</sub>[Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)(C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>] (Q = NEt<sub>4</sub> or 1,4-dimethyl-pyridinium, C<sub>5</sub>S<sub>5</sub> = 4,5-disulfanyl-1,3-dithiole-2-thionate), 541

Crystal structures and luminescence spectra of ten-co-ordinate lanthanide(III) complexes (Ln = Ce, Sm, Eu or Tb) with 2,6-bis(benzimidazol-2-yl)pyridine (1994, 2523), 553

Removing a second mercury atom from [Os<sub>18</sub>Hg<sub>2</sub>C<sub>2</sub>(CO)<sub>6</sub>]<sup>2-</sup>: synthesis of [Os<sub>18</sub>Hg<sub>2</sub>C<sub>2</sub>(CO)<sub>6</sub>]<sup>4-</sup> and crystal structure of [PPh<sub>3</sub>H]<sub>2</sub>[Os<sub>18</sub>Hg<sub>2</sub>C<sub>2</sub>(CO)<sub>6</sub>]<sup>2-</sup>, 597

Cluster core geometrical variation in heterometallic boride clusters containing RhRu<sub>4</sub> skeletons: crystal structures of [RhRu<sub>4</sub>H<sub>2</sub>( $\eta$ -C<sub>5</sub>Me<sub>5</sub>)( $\mu$ -Cl)(CO)<sub>2</sub>]<sub>2</sub>B and [RhRu<sub>4</sub>H(nbd)(CO)<sub>2</sub>B(AuPPh<sub>3</sub>)<sub>2</sub>] (nbd = norbornadiene), 603

Dynamic disorder in crystalline [Fe<sub>2</sub>Os(CO)<sub>12</sub>] and direct evidence

## CRYSTAL STRUCTURE (contd)

for rotation of the  $\text{Fe}_2\text{Os}$  triangle in the solid state from variable-temperature X-ray diffraction and  $^{13}\text{C}$  MAS NMR studies, 631  
Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dpf})(\text{CO})_{12}]$  [ $\text{M} = \text{M}' = \text{Cu}, \text{Ag}$  or  $\text{Au}$ ;  $\text{M} = \text{Cu}, \text{M}' = \text{Au}$ ; dpf =  $\text{Fe}(\eta^3\text{-C}_5\text{H}_4\text{PPh}_2)_2$ ] and the crystal structures of  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dpf})(\text{CO})_{12}]$  ( $\text{M} = \text{Cu}$  or  $\text{Au}, \text{M}' = \text{Au}$ ), 643

Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametalate derivatives, 681

Polyoxotitanates join the Keggin family: synthesis, structure and reactivity of  $[\text{Ti}_{18}\text{O}_{28}\text{H}](\text{OBu}')_{17}$ , 691

Synthesis and structural characterisation of new copper-tellurium clusters:  $\text{TeBu}_3(\text{SiMe}_3)$  as a source of  $\text{RTe}^-$  and  $\text{Te}^{2-}$  ligands, 729

Syntheses and structural characterisation of  $[\text{Ir}_4(\text{CO})_{11}(\eta^1\text{-L})]$  and  $[\text{Ir}_4(\text{CO})_{10}(\eta^1\text{-L})_2]$  [ $\text{L} = [\text{Fe}(\eta^3\text{-P}_2\text{C}_5\text{Bu}_2)(\eta^3\text{-P}_2\text{C}_5\text{Bu}_2)]$  and  $[\text{Fe}(\eta^3\text{-C}_5\text{H}_4\text{P}_2\text{C}_5\text{Bu}_2)_2]$ ] and  $[\text{Ir}_4(\text{CO})_{11}(\mu\text{-P}^{\bullet}: \eta^1\text{-}[Fe(\eta^3\text{-C}_5\text{H}_4\text{P}_2\text{C}_5\text{Bu}_2)]\text{Ir}_4(\text{CO})_{11}]$  and its facile conversion to  $[\text{Ir}_4\text{H}(\text{CO})_{10}(\text{Fe}(\eta^3\text{-C}_5\text{H}_4\text{P}^{\bullet}: \text{C}(\text{CMc}_2\text{CH}_2)\text{CBu}')]_{\text{Ir}}(\text{CO})_{11}]$ , via an unusual C-H activation, 739

Characterisation, redox properties and structures of the iron nitridocarbonyl clusters  $[\text{Fe}_6\text{N}(\text{CO})_{11}(\text{PPh}_3\text{C}_5\text{H}_4\text{FeC}_5\text{H}_2)_2]^-$ ,  $[\text{Fe}_6\text{N}(\text{CO})_{11}]^3-$  and  $[\text{Fe}_6\text{H}(\text{N})(\text{CO})_{11}]^{2-}$ , 747

Systematic synthesis of substituted hexanuclear phosphide- and phosphinidene-bridged osmium clusters, 755

$\text{RbIn(OH)PO}_4$ : an indium(III) phosphate containing spirals of corner-sharing  $\text{InO}_6$  octahedra, 815

$\text{Na}_2\text{Fe}_4(\text{PO}_4)_6$ : a mixed-valence iron phosphate containing a tetramer of edge-sharing  $\text{FeO}_6$  octahedra, 819

Metal complexes of a tetrathiafulvalene 4,5-dithiolate. Synthesis, characterisation and properties of dianionic and neutral mercury complexes, 823

Alane- and gallane-sulfur donor chemistry: synthesis of  $\text{AlH}_3\text{NMe}(\text{CH}_2\text{CH}_2)_2\text{S}$ ,  $[\text{AlH}_3(\mu\text{-N}(\text{CH}_2\text{CH}_2)_2\text{S})_2]$  and  $\text{MH}(\text{CH}_2\text{CH}_2\text{N}(\text{Et})_2)_2$  ( $\text{M} = \text{Al}$  or  $\text{Ga}$ ), 829

New supramolecular architectures based on polyfunctional organotin tetrazoles: synthesis and characterisation of phenylene-bridged bis(organotin tetrazoles), 835

Organotin-functionalised poly(tetrazoles), including the supramolecular structure of 1,6-(2-Bu<sub>3</sub>N<sub>4</sub>C<sub>6</sub>H<sub>4</sub>)<sub>6</sub>, 847

Methylzinc tetrahydronate: physical and chemical properties and crystal structure at low temperature, 853

Deprotonation and self-assembly of a symmetric oxamide-bridged dinuclear copper(II) complex involving imidazole moieties, 861

New tricks for an old ligand: cyclometallated and didentate coordination of 2,2':6,2'-terpyridine to ruthenium(II), 873

Mono- and di-nuclear ruthenium(II) complexes of the ambidentate ligand 3,3'-dihydroxy-2,2'-bipyridine: spectroscopic, electrochemical and mixed-valence properties, 879

Mercury-osmium carbonyl clusters resulting from facile Hg-C bond cleavage: reactions of  $[\text{Os}_8\text{H}_2(\text{CO})_{10}]$  with  $[\text{Hg}(\text{C}=\text{CPh})_2]$  and  $[\text{RHg}=\text{CHgR}]$  ( $\text{R} = \text{Ph}, \text{Me}$  or  $\text{Et}$ ), 899

Synthesis and characterisation of quinonide bridged dinuclear complexes of titanium and zirconium, 913

New mono- and bi-nuclear *ansa*-metallocenes of zirconium and hafnium as catalysts for the polymerisation of ethene and propene, 921

Unexpected reactions of pentafluorophenyl boron compounds with  $\eta$ -cyclopentadienyl(benzamidinato)zirconium derivatives, 939

Monocyclooctatetraene uranium amide compounds in the +4 and +5 oxidation states, 947

Synthesis and crystal structures of tris(2-methoxyethylcyclopentadienyl)lanthanide complexes, 955

The preparation and crystal and molecular structures of new luminescent Schiff-base complexes featuring coupled lanthanide(III) cations, 961

Synthesis and characterization of rhodium complexes containing atropisomeric sulfur ligands. Structure of  $[(\text{Rh}_2(\mu\text{-L})(\text{CO})_9[\text{P}(\text{OC}_6\text{H}_4\text{Bu}^{\bullet\prime\prime})_3])_2]$  ( $\text{H}_2\text{L} = 1,1'\text{-binaphthalene-2,2'-dithiol}$ ), 969

Linking and fragmentation of alkynes at a triruthenium centre, 975

Dinuclear thioether half-sandwich ruthenium(II) complexes of the types  $[(\text{RuL}^{\bullet}([9]\text{janeS}_3))_2(\mu\text{-L})_2]^{2+}$  ( $n = 1, \text{L}' = \text{PPPh}_3$ ;  $n = 2, \text{L}' = \text{MeCN}$ ),  $[(\text{Ru}([9]\text{janeS}_3))_2(\mu\text{-L})]^{2+}$  and  $[(\text{Ru}([9]\text{janeS}_3))_2(\mu\text{-L})_3]^{+}$  with heterocyclic thioamides L ( $[9]\text{janeS}_3 = 1,4,7\text{-trithiacyclononane}$ ), 989

Mechanism of alkyne trimerisation at a molysbdenum and tungsten centres leading to novel metallacycles: crystal and molecular structures of two isomeric forms of  $[\text{Mo}_2\text{C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{C}(\text{CO}_2\text{Me})\text{C}(\text{CO}_2\text{Me})(\text{SPr})_2 - (\eta^3\text{-C}_5\text{H}_4)]$ , 999

Structure and magnetic behaviour of the first singly bridged nickel cyanate chain and a new dinuclear complex: an approximation to the superexchange mechanism for the nickel pseudohalide system, 1013

New atropisomeric bidentate nitrogen-donor compounds as

potential stereocontrollers in mild CO-styrene copolymerisation catalysed by palladium(II) salts, 1021

Oxidation behaviour of the unsaturated diruthenium species  $[\text{Ru}_2(\mu\text{-CO})_2(\text{CO})_2(\mu\text{-PrO}^{\bullet})_2\text{PNEtP}(\text{OPr})_2]_2$ , 1031

Phosphorus donor complexes of bismuth(III). Structural characterisation of  $[\text{Bi}_2\text{Cl}_6(\text{Ph}_2\text{PCH}_2\text{PPh}_2)_2]$ ,  $[\text{Bi}_2\text{Cl}_6(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2]$ , 1063

Tris(2-methoxyphenyl) phosphite complexes of platinum(II): the *cis* preference of triaryl phosphite ligands and the effect of oxidation state on metal-phosphite bonding, 1069

Linking metal centres with 1,4-bis(diphenylphosphino)-2,5-difluorobenzene (dpfb): syntheses and molecular structures of  $[(\text{Mo}(\text{CO})_4(\mu\text{-dpfb}))_2]$  and  $[(\text{Mo}(\text{CO})_4)_2(\mu\text{-dpfb})(\mu\text{-dppa})]$  ( $\text{dppa} = \text{Ph}_2\text{PC}=\text{CPPh}_2$ ), 1077

2-(Diphenylphosphinoyl)propanoate complexes: crystal structure of tris[2-(diphenylphosphinoyl)propanoato]vanadium(III), 1087

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni, 1093

Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of  $[\text{TiCl}_4\text{L}]$ ,  $[\text{FeL}_2\text{O}_3\text{SCF}_3]_2$  and  $[\text{Mo}(\text{CO})_4]_2$  [ $\text{L} = \text{PhCH}_2\text{P}(\text{CH}_2\text{CH}_2\text{OEt})_2$ ], 1105

Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(V) diphosphine complexes and related nitridorhenium(V) organometallics; crystal structure of  $[\text{Re}^{\text{V}}\text{NC}=\text{CBu}](\text{PPh}_3)_2$ , 1125

New ruthenium-tin clusters with bulky ligands. Crystal and molecular structures of  $[\text{Ru}_2(\text{CO})_6(\mu\text{-SnR}_2)_2(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$ ,  $[\text{Ru}_3(\text{CO})_6(\mu\text{-SnR}'_2)_2]$ ,  $[\text{Ru}_3(\text{CO})_6(\mu\text{-SnR}_2)_2(\mu\text{-SnR}'_2)_2]$  and  $[\text{Ru}_3(\text{CO})_6(\mu\text{-SnR}_2)_2(\mu\text{-SnR}'_2)_2][\text{R} = \text{CH}(\text{SiMe}_3), \text{R}' = \text{C}_6\text{H}_5\text{Pr}_3]$ , 1133

Synthesis, characterisation, Mössbauer spectra, and structures of some trimuclear iron-tin clusters, 1145

Ruthenium(II) complexes with a new potentially trifunctional phosphinoester and its enolate as ligands, 1153

Unusual binding of exogenous anions in some lead(II) complexes with a functionalized macrocycle, 1173

Unexpected ring contraction in the barium-assisted cyclocondensation of 2,6-diformylpyridine and *N,N*-bis(2-aminoethyl)-2-phenylethylamine, 1181

Crystal and molecular structure of dimethyl(l-tryptophyl-l-alaninate)tin(IV)-methanol (1/1) and Mössbauer spectroscopy studies of lattice dynamics of diorganotin(IV) dipeptide complexes, 1195

Synthesis, structure and reactions of the first tellurium-containing macrocyclic Schiff base, 1203

Structural variations in nickel(II) and copper(II) MN<sub>x</sub> Schiff-base complexes with deprotonated tetradeinate *N,N*-bis(5-amino-pyrazol-4-ylmethylene)poly(methylenediamine) ligands, 1215

Metal complexes of a chiral quadridentate Schiff base, 1229

Synthesis, structure and reactivity of the thioether half-sandwich rhodium(III) complex  $[\text{RhCl}(\text{MeCN})_2([9]\text{janeS}_3)][\text{CF}_3\text{SO}_3]$  ( $[9]\text{janeS}_3 = 1,4,7\text{-trithiacyclonanone}$ ), 1237

Intermediate-spin iron(III) octaethyltetraazaporphyrinates with weakly co-ordinating anions: synthesis, characterization and crystal structure, 1249

Synthesis, structures and redox properties of platinum metal phosphathia complexes: crystal structures of *cis*- $[\text{RuCl}_2(\text{RSC}_2\text{H}_4\text{SR})_2]0.75\text{Et}_2\text{O}$  and *cis*- $[\text{RuCl}_2(\text{RSC}_2\text{H}_4\text{RS})_2]\text{PF}_6\text{CH}_2\text{Cl}_2$  ( $\text{R} = \text{Ph}_2\text{PCH}_2\text{CH}_2$ ), 1261

Synthesis and characterisation of mono- and di-nuclear mixed phosphathia complexes of gold(I): crystal structures of  $[\text{Au}(\text{RSC}_2\text{H}_4\text{SR})_2]\text{PF}_6$ ,  $[\text{Au}(\text{RSC}_2\text{H}_4\text{SR})_2]\text{Cl}_2$  and  $[\text{Au}(\text{RSC}_2\text{H}_4\text{SR})_2]\text{Cl}_2\text{CH}_2\text{Cl}_2$ , 1267

Late transition-metal complexes with the heterofunctional phosphine  $\text{Ph}_2\text{PNHP}(\text{O})\text{Ph}_2$ , 1283

Synthesis and characterization of square-planar palladium(II), platinum(II) and rhodium(II) complexes with a chiral pyridyl-phosphine hybrid ligand, 1295

Hydroxymethyl bis(phosphines) and their palladium(II) and platinum(II) complexes formed via biphasic reactions. Crystal structure of  $[\text{Pd}((\text{HOH}_2\text{C}_2\text{P})\text{C}_6\text{H}_4\text{P}(\text{CH}_2\text{OH})_2)]\text{Cl}_2$ , 1301

Synthesis and characterisation of a novel nickel trihydride. Crystal structure of  $[(\text{Ni}(\text{dippe}))_2\text{H}_3][\text{BPh}_4]$  ( $\text{dippe} = \text{Pr}_2\text{PCH}_2\text{CH}_2\text{PPr}_2$ ), 1305

$\eta^2$ -Sulfenamido and -selenamido complexes of titanium, zirconium, molybdenum and tungsten, 1309

Synthesis, structure and properties of new iron-molybdenum and-tungsten fulvalene-bridged heterobimetallic complexes, 1323

Stabilisation of unusual simultaneous binding of four cytosine nucleobases to copper(II) by a novel network of bifurcated hydrogen bonding, 1333

Fluxionality in polynuclear copper(II) complexes containing aminoalcoholate ligands: syntheses, crystal structures, and  $^1\text{H}$  nuclear magnetic resonance studies, 1341

Polymeric pyrazolato complexes. Synthesis, chemical reactivity and crystal structures of  $[(\text{Pd}(\text{dmpz})_2(\text{Hdmpz})_2)_2]$  and  $[(\text{PdAg}_2(\text{dmpz})_2)_2]$  ( $\text{Hdmpz} = 3,5\text{-dimethylpyrazole}$ ), 1351

## CRYSTAL STRUCTURE (contd)

Conformational change of the *N,N'*-bis(3-aminopropyl)oxamidate ligand in nuclearity tailoring copper(II) complexes, 1359  
 Synthesis and reactivity of arereneruthenium pyranone and pyridinone complexes, 1399  
 Control of the co-ordination mode of 1,8-naphthyridine ligated to ruthenium(II) bipyridine complexes, 1405  
 Monohelical quinquepyridine complexes of rhodium(II) and -(III), 1411  
 New mixed carbonyl-nitro and -nitrito complexes of manganese and rhenium, 1419  
 Synthesis and structure of  $[\text{Ru}_3(\text{CO})_6(\mu\text{-H})(\mu_2\text{-PhCH}_2\text{CH}_2\text{C}_2\text{NPh})]$ , a product of an 'intramolecular' hydrogen-transfer reaction, 1429  
 Synthesis of tetracyan cobalt-molybdenum butterfly clusters with alkyne ligands: crystal structure of  $[\text{Co}_2\text{Mo}_2(\mu_4\text{-C}_2\text{Me}_2)(\mu\text{-CO})_2(\text{CO})(\eta\text{-C}_6\text{H}_5)_2]$ , 1437  
 Unusual reactions of a cationic carbyne complex of manganese with carbonyliron dianions to form a novel dimetal carbene-bridged complex  $[\text{MnFe}(\eta\text{-C}(\text{COEt})\text{Ph})(\eta\text{-C}_5\text{H}_5)(\text{CO})_3]$ , 1443  
 Formation of ring-expanded products from certain combinations of tetraphenylsiloxane diolates  $[(\text{Ph}_3\text{SiOM}')_2\text{O}]$  ( $\text{M}' = \text{Li}$  or  $\text{Na}$ ) and Group 4 metal chlorides  $\text{MCls}$ , 1449  
 Synthesis, characterization and redox properties of mixed phosphine nitroruthenium(II) complexes. Crystal structure of *trans*- $[\text{Ru}(\text{NO}_2)(\text{terpy})(\text{PMe}_3)(\text{PPH}_3)]$  $[\text{ClO}_4] \cdot \text{H}_2\text{O}$ , 1463  
 Alkali-metal vanadium sulphide  $\beta$  alums,  $\text{MV}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$  ( $\text{M} = \text{K}$ ,  $\text{Rb}$  or  $\text{Cs}$ ): structural anomalies related to unsymmetrical occupancy of the  $t_{2g}$  ( $\text{O}_h$ ) orbitals, 1481  
 Synthesis, properties, stereochemistry and crystal structures of diastereomeric benzene-ruthenium(II) complexes with a chiral salicylideneaminato ligand, 1499  
 Some Schiff base complexes of lead(II), 1509  
 Facile acid-promoted decarboxylation of a macrocyclic complex. Crystal structure of [6,14-diacyl-7,13-dimethyl-1,4,8,12-tetraazacyclpentadeca-1(15),5,7,13-tetra-2-olato]nickel(II), 1513  
 One-, two- and three-dimensional copper(I) and silver(I) complexes of 2,11-dithia[3.3]paracyclophane, 1525  
 Synthesis and crystal structures of some bis-benzimidazoles, -benzothiazoles and -benzoxazoles by an alternative route: their complexation with copper(II) salts, 1531  
 Isolation, structure and spectroscopic properties of  $[\text{Re}_2(\text{C}_5\text{S}_5)_3]^{2-}$ -complexes and electrical conductivities of their oxidized species, 1539  
 Reactions of heterocyclic organotellurium compounds with triiron dodecacarbonyl: reactions of thiophenes revisited, 1545  
 Some transition-metal complexes derived from silylated 1,3-dynes, 1551  
 Systematic synthesis of hexanuclear phosphido-bridged osmium clusters; crystal and molecular structure of  $[\text{Os}_6(\mu\text{-H})(\text{CO})_{12}(\mu\text{-PH}_2)]$ , 1567  
 Synthesis of 1,3-diaryltriazenido triruthenium and triosmium clusters: crystal structures of  $[\text{Ru}_3(\mu\text{-H})(\text{CO})_{10}(\mu_4\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  and  $[\text{Os}_3(\text{CO})_9\text{Cl}(\eta^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$ , 1573  
 Raman spectroelectrochemical studies and crystal structure of a binuclear copper(I) complex with a bridging diimine ligand, 1591  
 Crystal structure and solution-state study of  $\text{K}[\text{Al}(\text{mal})(\text{H}_2\text{O})_2 \cdot 2\text{H}_2\text{O}$  ( $\text{H}_2\text{mal}$  = malonic acid), 1601  
 Structural characterization of the brown six-electron-reduced form of dodecatungstate,  $\text{K}_2[\text{BW}_{12}\text{O}_{37}(\text{H}_2\text{O})_3] \cdot 13\text{H}_2\text{O}$ , 1619  
 Metal complexes of chiral phosphorylalkoxides: crystal structure of dichlorobis[(1S)-2-(diphenylphosphoryl)-1-methylethanolate]-titanium(IV), 1637  
 Photoluminescent cyclometallated diplatinum(II, II) complexes: photophysical properties and crystal structures of  $[\text{PtL}(\text{PPh}_3)]\text{ClO}_4$  and  $[\text{Pt}_2\text{L}_2(\mu\text{-dppm})]\text{ClO}_4 \cdot 2\text{H}_2\text{O}$  ( $\text{HL} = 6\text{-phenyl-2,2'-bipyridine}$ , dppm =  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ ), 1645  
 Layers built from caesium cations and heptaphosphonatricyclane anions: synthesis and crystal structure of  $[\text{NEt}_4][\text{Cs}_2\text{P}_7]\text{NH}_3$  and  $[\text{NEt}_4][\text{Cs}_2\text{P}_7]\text{NH}_3 \cdot 1653$   
 Co-ordination chemistry of 1,4-bis(*o*-aminobenzyl)-1,4-diazacyclohexane (L) with nickel(II), copper(II) and palladium(II), 1659  
 Silver-iodocarbon complexes: crystal structures of eight compounds obtained from the reactions of  $\text{AgPF}_6$  or  $\text{AgNO}_3$  with  $\text{CH}_2\text{I}_2$ ,  $\text{I}(\text{CH}_2)_2\text{I}$  and simple aryl iodides, 1669  
 Synthesis and structural characterization of  $[\text{PtCl}_2\{\text{meso-P}(=\text{O})(\text{HO})\text{CH}_2\text{CH}_2\text{P}(\text{OH})\text{Ph}\}]$  and structurally related derivatives, 1679  
 Rare-earth-metal solvent extraction with calixarene phosphates, 1687  
 Rhodium(I) complexes containing the enolate of *N*-acetyl-3-butanoyletramic acid (Habta) and the crystal structure of  $[\text{Rh}(\text{abta})(\text{P}(\text{OPh})_3)_2]$ , 1701  
 Synthesis, characterization and crystal structures of a series of ruthenium  $\mu$ -nitrene carbonyl clusters, 1707  
 Structure and reactivity of  $[\{\text{Te}(\text{NMe}_2)_2\}_n]$ : application to the preparation of metalloorganic tellurium(II) compounds, 1727  
 Triosmium and triruthenium clusters containing the 4-methyl-thiazolidine ligand: crystal structures of  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}]$  ( $\mu\text{-2,3-CH=NCMe=CHS}$ ),  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-2,3-CH=NCMe=CHS})(\text{PPh}_3)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-2,3-CH=NCMe=CHS})(\text{PPh}_3)_2]$ , 1731  
 Ten-vertex polyhedral mono-heteroborane chemistry: syntheses, molecular structures and nuclear magnetic resonance characterization of some 9-substituted 6-aza- and 6-thia-*arachno*-decaboranes, 1741  
 Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles, 1753  
 Synthesis, crystal structure and luminescence properties of a europium(III) complex with a new planar aromatic tridentate N<sub>3</sub> ligand, 1767  
 Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(I) complex, 1769  
 Macropolyhedral boron-containing cluster chemistry. *Syn*- and *anti*- $[(\text{C}_5\text{Me}_5)_2\text{Rh}_2\text{B}_{15}\text{H}_{14}(\text{OH})]$ : an interesting nineteen-vertex isomeric pair, 1775  
 Primary alkanyl phosphine complexes of chromium and molybdenum: synthesis and characterisation of tricarbonyl(1,5,9-triphosphacyclododecane)chromium(0), 1801  
 Reactions of di- and tri-nuclear palladium and platinum isocyanide complexes with highly basic and bulky aromatic phosphines containing methoxy groups at the 2 and 6 positions, 1815  
 Heteronuclear Pt-Pd, Pt-Cu and Pt-Ni complexes with bridging acetamide: crystal structures and spectroscopic studies, 1823  
 Syntheses, structures and electrochemical properties of single and double helical inorganic complexes containing new polypyridine ligands, 1829  
 Synthesis, magnetic behaviour and structural characterization of the alternating hexanuclear copper(II) compound  $[\text{Cu}_6(\text{tmen})_6(\mu\text{-N}_3)(\mu\text{-C}_2\text{O}_4)_2(\text{H}_2\text{O})_2][\text{ClO}_4] \cdot 2\text{H}_2\text{O}$  ( $\text{tmen} = \text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2$ ), 1835  
 Crystal structure and magnetic properties of the layer ferrimagnet  $\text{Ni}(\text{n-C}_4\text{H}_9)_2\text{Mn}^{III}\text{Fe}^{III}(\text{C}_2\text{O}_4)_6$ , 1839  
 Structural, spectroscopic and angular-overlap studies of tripodal pyridine ligands with nickel(II) and zinc(II), 1845  
 Covalently linked anthracene-containing supramolecular complexes of triosmium carbonyl clusters: synthesis, crystal structures and solvatochromic behaviour, 1853  
 Tris(triorganostannyltetrazoles): synthesis and supramolecular structures, 1857  
 Face *versus* vertex co-ordination of tridentate crown thioethers to trinuclear cobalt clusters, 1875  
 Synthesis and structures of half-sandwich palladium(II) complexes of 1,4,7-trithiacyclononane ([9]aneS<sub>3</sub>) incorporating halide, phosphine and heterocyclic ligands, 1885  
 Synthesis and electrospray mass spectrometry of platinum(II) complexes of 5,5-diethylbarbituric acid (Hdebarb); crystal structure of *cis*- $[\text{PtCl}(\text{debarb})(\text{PPh}_3)_2]\text{CH}_2\text{Cl}_2$ , 1897  
 Crystal structure of a copper(II)-famotidine complex and solution studies of the  $\text{Cu}^{2+}$ -famotidine-histidine ternary system, 1905  
 Reactions of  $[\text{Ru}(\text{bipy})(\text{CO})_2\text{Cl}_2]$  in aqueous HX and HX-HNO<sub>3</sub> solutions ( $\text{X} = \text{F}$ ,  $\text{Br}$  or  $\text{I}$ ; bipy = 2,2'-bipyridine), 1927  
 Nickel complexes of 1,2-bis(diisopropylphosphino)ethane with sulfur-containing ligands, 1935  
 Co-ordination chemistry of tridentate phosphinothiolates; syntheses and structures of  $[\text{Li}(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2\text{-SiMe}_3-3)_2)_2(\text{MeOCH}_2\text{CH}_2\text{OMe})_2]$ ,  $[\text{Sn}(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2\text{-SiMe}_3-3)_2)_2]$  and  $[\text{NHEt}_3][\text{Sm}(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2\text{-R}-3)_2)_2(\text{py})_2] \cdot 2\text{py}$  ( $\text{R} = \text{H}$  or  $\text{SiMe}_3$ , py =  $\text{C}_6\text{H}_5\text{N}$ ), 1941  
 Discrete dinuclear and polymeric copper(I) cations bridged by 4,4'-bipyridine, *trans*-1,2-bis(4-pyridyl)ethene or bis(4-pyridyl)disulfide, 1947  
 Paramagnetic tetrahedral dinitrosyliron complexes containing redox-active cyanomanganese ligands, 1959  
 Structural studies on an iron(III) complex containing (Z)-2-(2-aminothiazol-4-yl)-N-(2-hydroxyethyl)-2-(hydroxymino)-acetamide, a model compound for a cephalosporin antibiotic Cefdinir, 1967  
 Deprotonation reactions of 2-thiouracil with [2-(pyridin-2-yl)-phenyl]mercury(II) acetate. Structural and spectroscopic effects, 1973  
 Synthesis and structural characterization of organometallic niobium(IV) amido complexes, 1979  
 Synthesis and spectroscopic characterization of a series of substituted cyclopentadienyl Group 4 fluorides; crystal structure of the acetylacetone complex  $[(\text{acac})_2(\eta\text{-C}_5\text{Me}_5)\text{Zr}(\mu\text{-F})\text{SnMe}_3\text{Cl}]$ , 1983  
 Crystal and molecular structure of  $[\text{V}_2\text{O}_5(\text{sal-L-val})_2(\text{H}_2\text{O})]$  ( $\text{sal-L-val} = \text{N-salicylidene-L-valinate}$ ) and spectroscopic properties of related complexes, 1989  
 Bis(acetylide) complexes of ruthenium, 2011  
 Barbituric acid as a new locking fragment in macrocyclization; synthesis and structural characterization of aqua(perchlorato)-(2',4',6'-trioxohexahydropyrimidine-5'-spiro-6-1,4,8,11-tetraazacyclotetradecane)copper(II) perchlorate hydrate, 2017  
 Synthesis, characterisation and superoxide dismutase activity of a manganese(II) complex, 2019

## CRYSTAL STRUCTURE (contd)

Synthesis, characterization and crystal structures of bismuth(III) complexes with triethylenetetraaminehexaacetic acid and *trans*-cyclohexane-1,2-diaminetetraacetic acid, 2023

Self-assembly of copper(I) complexes into three-dimensional co-ordination polymers with channel networks by hydrogen bonding or by tridentate ligands, 2031

The crystal structures of  $[\text{NMe}_4]^+[(\text{Me}_3\text{AsO}_2)_2(\text{MoO}_4)_2]_2$ ,  $[\text{NMe}_4]^+[(\text{Ph}_2\text{PO}_2)_2(\text{MoO}_4)_2]_2$ ,  $[\text{NBu}_4]^+[(\text{Ph}_2\text{PO}_2)_2(\text{WO}_4)_2]_2$  and  $[\text{NH}_3]^+[(\text{Ph}_2\text{PO}_2)_2(\text{MoO}_4)_2(\text{H}_2\text{O})]_2$  and their use as catalytic oxidants, 2039

Electrochemical synthesis and crystal structure of silver(I) complexes with some heterocyclic thiones, 2047

Synthesis, structure, spectra and redox interconversions in copper(II) complexes of 5,6-diphenyl-3-(2-pyridyl)-1,2,4-triazine, 2061

Prediction of crystal structures, 2077

Crystal structure of bis(tetra-*n*-butylammonium) dodecamolybdosulfate(vi)(2-),  $[\text{NBu}_4]^+_2[\text{SMo}_{12}\text{O}_{40}]^{2-}$ , 2083

Homoleptic hydroxylamides of titanium, zirconium and hafnium, 2089

Two different co-ordination modes of hydrazide ligands in silicon and germanium compounds, 2095

Synthesis of sterically hindered bis(imidazole) proligands and an exploration of their co-ordination chemistry with copper(II), 2101

An unusual anionic oxo-(μ-oxo)-vanadium(V) network interlinked by cationic sodium chains, 2111

Synthesis and structure of dilead(II) and dimanganese(II) complexes of macrocycles derived from 3,6-diformylpyridazine, 2117

Structural chemistry of triorganotin fluorides. The crystal structure of tricyclohexyltin fluoride revisited, 2123

Oxidative-addition reactions on planar chloranilate rhodium systems. Crystal structure of  $[\text{Rh}_2(\mu-\text{C}_5\text{Cl}_3\text{O}_2)\text{Me}_2]_2(\text{CO})(\text{PPPh}_3)_2$ , 2155

Crystal structures of  $[\text{Fe}_2(\text{CO})_9(\text{P}(\text{OR})_3)_2]$  ( $\text{R} = \text{Me}$  or  $\text{Pr}$ ), 2159

Isolation and structural characterisation of products from the reaction of  $[\text{Os}_4(\mu-\text{H})_4(\text{CO})_{10}(\text{MeCN})_2]$  with cyclohexa-1,3-diene, 2165

Synthesis and spectroscopic characterization of new mixed-metal, mixed-chalcogenide clusters  $[\text{Fe}_2\text{W}(\text{CO})_{10}(\mu_3\text{-Se})(\mu_4\text{-E})]$  ( $\text{E} = \text{Te}$  or  $\text{S}$ ). Structures of  $[\text{Fe}_2\text{M}(\text{CO})_{10}(\mu_3\text{-Se})(\mu_3\text{-E})]$  ( $\text{M} = \text{W}$ ,  $\text{E} = \text{Se}$  or  $\text{Te}$ ;  $\text{M} = \text{Mo}$ ,  $\text{E} = \text{Se}$ ), 2173

Synthesis and characterization of triosmium clusters containing a nitrite ligand; crystal and molecular structures of  $[\text{N}(\text{PPPh}_3)_3]$ ,  $[\text{Os}_3(\text{CO})_{10}(\mu-\eta^2\text{-NO}_2)]$  and  $[\text{Os}_3(\mu-\text{H})(\text{CO})_{10}(\mu-\eta^2\text{-NO}_2)]$ , 2177

An unusual tetrานuclear copper(II) acetate structure with an open cube  $\text{Cu}_4\text{O}_4$  framework, 2179

Synthesis and structure of a novel carboxylate-bridged heterometallic copper(II)-gadolinium(III) complex, 2181

Selenium insertion into a cadmium–carbon bond; synthesis and structural characterisation of the loosely linked dimer  $[(\text{Cd}(\text{SeC}=\text{CPh})(\text{tmn}))_2]$  ( $\text{tmn} = \text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2$ ), 2183

Carbonylation of hydrocarbypalladium(II) complexes containing substituted pyridinecarboxylate chelating ligands. Steric and electronic manipulation of the CO-insertion mechanism, 2197

Bis(carboxylato) complexes of platinum(II). Structural and bonding analysis of  $[\text{Pt}(\text{O}_2\text{CR})_2(\text{L}-\text{L})]$  ( $\text{L-L} = 2\text{PPh}_3$ ,  $\text{Ph}_2\text{PCH}_2\text{PPPh}_2$  or  $\text{Fe}(\text{C}_5\text{H}_4\text{PPPh}_2)_2$ ;  $\text{R} = \text{Me}$ ,  $\text{CF}_3$ ,  $\text{Pr}$  or  $\text{Ph}$ ), 2207

Dinuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227

Formation of axial phenolate–metal bonds in square-pyramidal complexes, 2233

Crystal structures and superoxide dismutase mimetic activity of  $[\text{CuL}_2(\text{Him})_2]\text{MeOH}$  and  $[\text{CuL}_2(\text{mim})_2]\text{H}_2\text{O}$  [ $\text{HL} = 4\text{-aminino-N-(thiazol-2-yl)benzenesulfonamide}$ ,  $\text{Him} = \text{imidazole}$ ,  $\text{mim} = \text{N-methylimidazole}$ ], 2239

Reactions of (diethyldithiocarbamato)halogenotellurium(II); crystal structures of  $\text{R}[\text{Te}(\text{S}_2\text{CNEt}_2)_2\text{X}_2]$  ( $\text{R} = \text{NEt}_3$ ,  $\text{X} = \text{I}$ ;  $\text{R} = \text{H}(\text{phen})_2$  ( $\text{phen} = 1,10\text{-phenanthroline}$ ),  $\text{X} = \text{I}$  or  $\text{Br}$ ), 2253

Synthesis, structure and characterization of mixed cyclopentadienyl–dithiobenzene metal complexes,  $[\text{Co}(\eta-\text{C}_5\text{H}_5)_2][\text{Ni}(\text{S}_2\text{C}_6\text{H}_5)_2\text{MeCN}]$  and  $[\text{Ni}(\eta-\text{C}_5\text{H}_5)(\text{C}_6\text{H}_5)_2]$ , 2261

Synthesis and crystal structure of  $[\text{Ni}(\text{Ph}_2\text{PC}(\text{S})\text{NPh}_2)_2]$  and  $[\text{Ni}(\text{Ph}_2\text{P}(\text{Y})\text{C}(\text{S})\text{NPh}_2)_2]$  ( $\text{Y} = \text{S}$  or  $\text{Se}$ ), 2269

Synthesis and reactivity of cationic vinylidene and allenylidene ruthenium(II) complexes containing the phosphinoether  $\text{Pr}_2\text{PCH}_2\text{CH}_2\text{OMe}$  as chelating ligand, 2275

Novel triosmium cluster complexes with rod-like molecular geometry. Syntheses and crystal structures of  $[\text{Os}_3(\mu-\text{H})_2(\text{CO})_9(\mu_3\text{-CNC}_4\text{H}_4\text{CH}=\text{NC}_6\text{H}_4\text{OC}_{16}\text{H}_{33})]$  and  $[\text{Os}_3(\mu-\text{H})_2(\text{CO})_{10}(\mu-\text{NC}_5\text{H}_4\text{CH}=\text{NC}_6\text{H}_4\text{OC}_{16}\text{H}_{33})]$ , 2293

Synthesis and reactivity of  $\eta^3\text{-}\gamma\text{-lactonyl}$  complexes of molybdenum; crystal structures of  $[\text{Mo}(\eta^3\text{-}\bar{\text{O}}(\text{O})\text{CHCHCH})(\text{CO})_2(\eta-\text{C}_5\text{Me}_5)]$ ,  $[\text{Mo}(\eta^3\text{-}\bar{\text{O}}(\text{O})\text{CHCHCH})(\text{CO})(\text{CO}_2\text{H})_2(\text{CO})_2(\eta^3\text{-C}_5\text{H}_5)]$  and  $[\text{Mo}(\eta^3\text{-}\bar{\text{O}}(\text{O})\text{CHCHCH})(\text{CO})(\text{NCMe})(\text{CO})(\eta-\text{C}_5\text{H}_5)]$ , 2299

Substituent-controlled assembly of helical complexes: synthesis, crystal and molecular structures of double helical silver(I) complexes with substituted quinquepyridines, 2309

Synthesis and characterization of cationic dinuclear complexes of platinum with bridging hydrides; crystal structures of  $[\text{Pt}_2(\mu-\text{H})_2\text{P}(\text{CH}_2)_2\text{PBu}'_2]_2[\text{BF}_4]_2$  and  $[\text{Pt}_2(\mu-\text{H})_2\{(\text{C}_6\text{H}_{11})_2\}\text{P}(\text{CH}_2)_2\text{P}(\text{C}_6\text{H}_{11})_2]_2[\text{BF}_4]_2$ , 2315

Oxidation of the pyrazine(pyz)-bridged polymeric copper(I) cation  $[\text{Cu}(\text{cnge})(\text{MeCN})(\text{pyz})]^+$  by  $\text{NOBF}_4$  and formation of the corresponding copper(II) cation  $[\text{Cu}(\text{MeCN})_4(\text{pyz})]^+$  ( $\text{cnge} = 2\text{-cyanoguanidine}$ ), 2323

First examples of polymeric mixed-metal (Pt–Ag) complexes containing single acetamido bridges: *cis*- $[(\text{NH}_3)^+_{\text{Pt}}(\text{NHCOMe})_2\text{Ag}](\text{NO}_3)_2\text{H}_2\text{O}$  and *trans*- $[(\text{NH}_3)^+_{\text{Pt}}(\text{NHCOMe})_2\text{Ag}](\text{NO}_3)_2\text{H}_2\text{O}$ , 2329

Synthesis and photophysics of tetranuclear copper(I) acetylides. Crystal structure of  $[\text{Cu}_4(\text{P}(\text{C}_6\text{H}_5\text{Me}-p)_3)_4(\mu_3\text{-}\eta^1\text{-C}=\text{CPh})_4]$ , 2335

Synthesis, spectra and crystal structures of complexes of ambidentate  $\text{C}_6\text{H}_5\text{C}(\text{O})\text{C}(\text{NO})\text{CN}^-$ , 2351

Homo- and hetero-dinuclear metal complexes of bridging ligands containing phenol and azole moieties. Structure, spectroscopy, electrochemistry and magnetochemistry, 2371

Crystallographic, vibrational and nuclear magnetic resonance spectroscopic characterization of the  $[(\text{PhS})_2\text{Hg}(\mu-\text{SPh})_2\text{Hg}(\text{SPh})_2]^{2-}$  ion, 2381

Synthesis and structure of small-molecule phosphazene rings bearing fused-ring aryloxy side groups: models for optically useful high polymers (1995, 3521), 2393

Diiron(II) and polymeric iron(III)–sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties (1996, 321), 2394

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[\text{Mo}_2\text{Ru}(\mu_3\text{-S})(\mu\text{-SPr})_2(\text{CO})_4(\eta\text{-C}_5\text{H}_5)_2]$ , 2403

Dinuclear nucleobase-anion-bridged complexes of  $\text{Pd}^{\text{II}}$  and  $\text{Pt}^{\text{II}}$  with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409

Solid-state carbon-13 nuclear magnetic resonance investigations of bismuth citrate complexes and crystal structure of  $\text{Na}_2[\text{Bi}_2(\text{cit})_3] \cdot 7\text{H}_2\text{O}$ , 2417

$2,2':6,2''-6,2'''-2''-Quaterpyridine$  (qtpy): a versatile ligand in metallosupramolecular chemistry; crystal and molecular structures of  $[\text{Ni}(\text{qtpy})(\text{OH}_2)_2]_2[\text{BF}_4]_2$ ,  $[\text{Pd}(\text{qtpy})][\text{PF}_6]_2$ ,  $[\text{Cu}_2(\text{qtpy})_2][\text{PF}_6]_2$  and  $[\text{Ag}_2(\text{qtpy})_2][\text{BF}_4]_2$ , 2423

Synthesis, structure and characterisation of magnesium and calcium  $\beta$ -diketonate complexes  $[\text{Ca}(\text{tmhd})_6]$  and  $[\text{Ca}_2(\text{tmhd})_4(\text{EtOH})_2]$  ( $\text{Htmhd} = 2,2,6,6\text{-tetramethylheptane-3,5-dione}$ ), 2435

Novel octadecanuclear copper(II)–lanthanoid(III) clusters. Synthesis and structures of  $[\text{Cu}_{12}\text{Ln}_6(\mu_3\text{-OH})_{24}(\text{O}_2\text{CCH}_2\text{CH}_2\text{NC}_5\text{H}_5)_2 \cdot (\text{H}_2\text{O})_6(\mu_2\text{-ClO}_4)_2][\text{ClO}_4]_{17}\text{H}_2\text{O}$  ( $\text{Ln}^{\text{III}} = \text{Gd}^{\text{III}}$  or  $\text{Sm}^{\text{III}}$ ), 2443

Spectroscopic and structural studies on 1:2 adducts of silver(I) salts with tricyclohexylphosphine, 2449

Spectroscopic and structural studies on 1:1 adducts of silver(I) salts with tricyclohexylphosphine, 2459

Trichloro-, mono-, di- and tri-organo-tin(IV) derivatives of hydrodipicolyl(4-methylpyrazol-1-yl)borates, 2475

Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on  $\text{M}_2(\text{OPr})_6$  ( $\text{M} = \text{Sn}$ ,  $\text{Zr}$  or  $\text{Ti}$ ) anions: crystal and molecular structures of  $[\text{Cd}(\text{Sn}_2(\text{OPr})_6)_2]$  and  $[\text{Sn}(\text{Zr}_2(\text{OPr})_6)_2]$ , 2485

Novel dithio- and diseleno-carbamates of zinc and cadmium as single-molecule precursors for low-pressure metal-organic chemical vapour deposition, 2491

Polymorphism, structures and phase transformation of  $\text{K}_3[\text{SO}_4]\text{F}$ , 2497

Synthesis, structure, spectra and redox chemistry of iron(III) complexes of tridentate pyridyl and benzimidazolyl ligands, 2519

Dinuclear alkoxide-bridged ruthenium(II) complexes with Class III mixed-valence states: a structural and spectroelectrochemical study, 2527

Crystal structures of  $[\text{NEt}_3\text{H}_3][\text{XCo}^{\text{II}}\text{W}_{11}\text{O}_{39}] \cdot 3\text{H}_2\text{O}$  ( $\text{X} = \text{P}$  or  $\text{As}$ ), 2537

Uranium(IV) bis(amido), imido and bis(acetylide) complexes: synthesis, molecular structure, solution dynamics and interconversion reactions, 2541

Preparation, structural and spectroscopic characterisation of the salts  $\text{M}_2\text{X}_2\text{AF}_6$  ( $\text{A} = \text{As}$  or  $\text{Sb}$ ,  $\text{M} = \text{S}$  or  $\text{Se}$ ,  $\text{X} = \text{Cl}$  or  $\text{Br}$ ) containing the novel sulfur- and selenium-halogen cations  $(\text{XMMX})^+$ , 2553

Unsaturated ether chelate complexes of ruthenium(II), 2571

Formation and reactivity of a peroxide adduct of iron(III) complexes containing substituted phenolic derivatives, 2579

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni (1996, 1093), 2585

Synthesis, crystal structure and non-linear optical properties of two new cluster compounds,  $[\text{MoCu}_2\text{OS}_2(\text{PPh}_3)_2(\text{S}_2\text{P}(\text{OBu})_2)_2]$  and  $[\text{MoAg}_2\text{S}_4(\text{PPh}_3)_2(\text{S}_2\text{P}(\text{OBu})_2)_2]$ , 2617

Reaction kinetics and mechanism of formation of  $[\text{H}_4\text{Co}_2\text{Mo}_{10}\text{O}_{38}]^6-$

## CRYSTAL STRUCTURE (contd)

by peroxomonosulfate oxidation of Co<sup>II</sup> in the presence of molybdate, 2629

Alcohol-alkoxide exchange between Sn(OBu)<sub>4</sub> and HOBu<sup>+</sup> in co-ordinating and non-co-ordinating solvents, 2659

Synthesis and co-ordination of 1,4,7,10-tetraazacyclododecanes disubstituted with imidazole and pyrazole, 2679

Complexing properties of phosphinic analogues of glycine, 2685

Chelating behaviour of methyl 2-pyridyl ketone carbono- and thiocarbono-hydrates in copper(II) and zinc(II) complexes, 2699

Synthesis of aryl selenides using arylmercurials. Cyclopalladation of Se(R)Ph [R = C<sub>6</sub>H<sub>5</sub>(N=NC<sub>6</sub>H<sub>4</sub>Me-4)-2,Me-5]. Crystal structures of Se-R<sub>2</sub> and [Pd(C<sub>6</sub>H<sub>5</sub>[N=NC<sub>6</sub>H<sub>3</sub>(SePh)-2',Me-4']-2,Me-5')Cl], 2713

Synthesis, characterisation and reactions of bis[2-(dimethylaminomethyl)phenyl] diselenide: its structure and that of [2-(dimethylaminomethyl)phenyl]selenium bromide, 2719

Synthesis, structure and magnetic properties of the first two-dimensional infinite sheet-like mixed-valence manganese(II,III) complex with bridging salicylate and pyridine-2-carboxylate ligands, 2735

*Ab initio* X-ray powder diffraction structural characterization of co-ordination compounds: polymeric [(MX<sub>2</sub>(bipy))<sub>n</sub>] complexes (M = Ni or Cu; X = Cl or Br; bipy = 4,4'-bipyridyl), 2739

Synthesis and characterisation of zinc(II) oxydiacetate (oda) complexes. Crystal structures of [(Zn(oda)-0.3H<sub>2</sub>O)<sub>n</sub>], [Zn(oda)(bipy)(H<sub>2</sub>O)]·2.5H<sub>2</sub>O and [Zn(oda)(phen)(H<sub>2</sub>O)]·1.5H<sub>2</sub>O (bipy = 2,2'-bipyridine, phen = 1,10-phenanthroline), 2747

Reactions of substituted hydrazines with vanadium(IV) compounds: crystal structures of [NH<sub>2</sub>Me<sub>2</sub>]<sub>2</sub>[(VCl<sub>3</sub>)<sub>2</sub>(μ-NNMe<sub>2</sub>)<sub>2</sub>], [V(OC<sub>6</sub>H<sub>5</sub>Pr'-2,6)]<sub>2</sub>(NH<sub>2</sub>Me<sub>2</sub>)<sub>2</sub> and [V(OC<sub>6</sub>H<sub>5</sub>Pr'-2,6)<sub>3</sub>-(NH<sub>2</sub>Me<sub>2</sub>Ph)], 2755

Deprotonation reactions of the aminocarbene complex *trans*-[ReCl(CN<sub>2</sub>)(dppe)<sub>2</sub>][BF<sub>4</sub>]<sup>-</sup> (dppe = Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>). Synthesis and properties of the cyano-complexes *trans*-[Re(CN)L(dppe)<sub>2</sub>] (L = NCR, N<sub>2</sub>, CO or C=CHPh) and crystal structure of *trans*-[Re(CN)(NCMe)(dppe)<sub>2</sub>]·PrOH, 2763

Structural and two-dimensional phosphorus-31 nuclear magnetic resonance studies of derivatives from (RP)<sub>3</sub> (R = Et or Ph) and activated triosmium clusters [Os<sub>3</sub>(CO)<sub>10</sub>X<sub>2</sub>] (X = μ-H or NCMe), 2773

Synthesis, structure, magnetic, spectroscopic and electrochemical behaviour of chloro-iron(III) and -manganese(III) complexes of 2,3,7,8,12,13,17,18-octakis(ethylsulfonyl)-5,10,15,20-tetraazaporphyrin, 2799

Oxidative dehydrogenation of a saturated tetraaza macrocyclic nickel(II) complex: selective formation of nickel(II) complexes containing one or two imino groups, 2809

Neutral five-co-ordinate gallium(III) and indium(III) complexes derived from sulfur ligands, 2815

Reactivity of diphosphines towards methyl- and phenyl-mercury(II) ions. Crystal structure of [Hg(Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)<sub>2</sub>][O<sub>3</sub>SCF<sub>3</sub>]<sub>2</sub>, 2821

Photoluminescence, photoredox properties and crystal structures of rhodium(v)-benzylidyne complexes with phosphine ligands, 2827

Zinc(II) complexes of putative obligate tetrahedrally co-ordinating pro-ligands, 2835

Guanidine anions as chelating ligands: syntheses and crystal structures of [Rh(η<sup>5</sup>-C<sub>5</sub>Me<sub>5</sub>)(η<sup>5</sup>-(NPh)<sub>2</sub>CNPh)Cl] and [Ru(η-Me<sub>2</sub>C<sub>6</sub>H<sub>4</sub>Pr'-p)(η<sup>2</sup>-(NPh)<sub>2</sub>CNPh)Cl], 2839

Synthesis and characterisation of (η<sup>5</sup>-cyclopentadienyl)(η<sup>5</sup>-ring) titanium alkyl (ring = indenyl or C<sub>5</sub>H<sub>5</sub>Bu') complexes. Crystal and molecular structure of racemic [Ti(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)-(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>CH<sub>2</sub>SiMe<sub>3</sub>)Cl], 2843

Important role of CH-π interaction in linkage isomers of bis(2,2'-bipyridine)ruthenium(II) complexes with pyrimidine-2-thione and related ligands, 2851

Zinc(II) complexes of tripodal ligands providing phenolate and pyridine donors: formation, structure and hydrolytic activity, 2857

Syntheses and characterisation of binuclear Rh<sub>2</sub>, Ir<sub>2</sub> and RhIr complexes containing dimethyl phosphonate and pyrazolate bridging ligands, 2877

Synthesis, characterisation, molecular and crystal structures of two novel osmium-palladium carbide carbonyl clusters, 2887

Photophysics and photochemical reactivities of organocopper(I) complexes. Crystal structure of [Cu<sub>2</sub>(PPh<sub>3</sub>Me)<sub>4</sub>(μ,η<sup>1</sup>-C≡CPh)<sub>2</sub>], 2889

Chelate-stabilized alkoxopalladium(II) complexes with chiral phosphine-substituted carbohydrate ligands, 2911

Reactions of [RhRu<sub>2</sub>H(η<sup>5</sup>-C<sub>5</sub>Me<sub>5</sub>)(CO)<sub>2</sub>BH<sub>2</sub>] with didentate phosphines and the synthesis and crystal structure of [RhRu<sub>2</sub>H<sub>2</sub>(η<sup>5</sup>-C<sub>5</sub>Me<sub>5</sub>)(CO)<sub>2</sub>(μ-dppf-P,P)AuB] [dppf = 1,1'-bis(diphenylphosphino)ferrocene], 2917

Electronic and steric effects in manganese Schiff-base complexes as models for the water oxidation complex in photosystem II. The

isolation of manganese-(II) and -(III) complexes of 3- and 3,5-substituted N,N'-bis(salicylidene)ethane-1,2-diamine (H<sub>2</sub>salen) ligands, 2935

Synthesis, platinum-195 nuclear magnetic resonance spectroscopic and extended X-ray absorption fine structure studies on platinum-(II) and -(IV) thioether macrocyclic complexes, 2979

Reactions of electrophiles with [(Bu'N)Re<sup>IV</sup>(μ-NBu')<sub>2</sub>], 2995

Asymmetric copper complexes of stable mono-*tert*-butyl monobenzyl thioether N<sub>2</sub>S<sub>2</sub> ligands, 3001

Copper(II) and cobalt(II) complexes of methyl 2-pyridyl ketone thioisocarbazole (HL); single-crystal structure of [Cu(HL)]NCS, 3011

Magnetic and optical characterization of one-dimensional isostructural σ-bonded tetracyanoquinodimethanoid complexes of nickel(II) and copper(II), 3015

Thiophene-linked azacryptand sites for dicopper and disilver; thiophene sulfur as an inert spacer?, 3021

Controlled synthesis and reversible oxidation of a thiolate-bridged macrocyclic dinickel(II) complex, 3031

Complexation of lop-sided 16- and 17-membered tetraaza macrocycles containing fused dibenz substituents with zinc(II) and cadmium(II), 3039

Comparative study of the interaction of 'lop-sided' 14- to 17-membered tetraaza macrocycles containing fused dibenz substituents with nickel(II), 3045

Monomeric, N-functionalised amido complexes of aluminium: synthesis of [AlCl{NR(8-C<sub>9</sub>H<sub>6</sub>N)}<sub>2</sub>] (R = H or SiMe<sub>3</sub>) and [Al{N(2-C<sub>5</sub>H<sub>4</sub>N)(2-C<sub>5</sub>H<sub>4</sub>N)}<sub>3</sub>], 3053

Binuclear palladium(I) complexes with isocyanide and N-donor bidentate ligands, 3059

Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087

Co-ordination chemistry of S-methyl 2-methyldithiocarbazate and formation of [M=N]<sup>2+</sup> (M = Tc or Re) species, 3105

A new method of creating co-ordinative unsaturation: synthesis and reactions of a reactive iridium(I) complex [Ir(CO)(PPh<sub>3</sub>CH<sub>2</sub>C(Bu')=N-N=C(Bu')CH<sub>2</sub>PPh<sub>3</sub>)<sub>2</sub>]PF<sub>6</sub>: crystal structures of [Ir(CO)(η<sup>2</sup>-L)(PPh<sub>3</sub>CH<sub>2</sub>C(Bu')=N-N=C(Bu')CH<sub>2</sub>PPh<sub>3</sub>)<sub>2</sub>]PF<sub>6</sub> (L = MeO<sub>2</sub>CC=CCO<sub>2</sub>Me or COCH=CHCONMe), 3111

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of PPh<sub>3</sub> with gold(I) halides; crystal structure of [AuBr(PMe<sub>3</sub>)<sub>2</sub>], 3121

Reactions of (F<sub>3</sub>CP)<sub>4</sub> and (F<sub>3</sub>CP)<sub>3</sub> with ruthenium and osmium carbonyl clusters: characterisation and crystal structures of the products, 3131

Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrogen ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and olefins, 3139

Macropolyhedral boron-containing cluster chemistry. Isolation and characterisation of the eighteen-vertex *nido*-5'-iridacodaborane-[3',8':1,2]-*closo*-4-iridacodaborane, [(CO)(PMe<sub>3</sub>)<sub>2</sub>]IrB<sub>16</sub>H<sub>4</sub>Ir-(CO)(PMe<sub>3</sub>)<sub>2</sub>], 3145

Codimerisation of CO and a 1,3-diynyl-metal complex on an Ru<sub>2</sub> cluster, 3151

Dimetallic gold(I) and platinum(II) complexes containing a trioxoosmium(VIII) moiety. Crystal structures of [Au(PPh<sub>3</sub>)(NO<sub>3</sub>O<sub>3</sub>)] and *cis*-[Pt(PMe<sub>3</sub>)<sub>2</sub>(NO<sub>3</sub>O<sub>3</sub>)<sub>2</sub>], 3153

Luminescent complexes containing a gold(I) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155

Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of [TiCl<sub>4</sub>L], [FeL<sub>2</sub>(O<sub>3</sub>SCF<sub>3</sub>)<sub>2</sub>] and [Mo(CO)<sub>3</sub>L<sub>2</sub>] [L = PhCH<sub>2</sub>P(CH<sub>2</sub>CH<sub>2</sub>OEt)<sub>2</sub>], 3163

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles (1995, 1753), 3163

π Stacking and the co-ordinate bond: sometimes conflicting factors in molecular recognition, as revealed in the structures of metal picrates, 3165

Synthesis and structures of copper(II) anion-bridged aggregates and chains: control over molecular shape, 3173

Synthesis, structure and spectroscopic studies on hydroxo-bridged heterotrinuclear complexes of cobalt(III) with ethane-1,2-diamine and ammonia as terminal ligands, 3179

Synthesis, characterisation and substitution reactions of gold(III) C,N-chelates, 3185

A bis(cyclopalladated) tetranuclear derivative of methyl ferrocenyl ketone azine: [{Pd}[(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)Fe(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)CMe=NR]}Cl(PPh<sub>3</sub>)<sub>2</sub>, 3195

Synthesis of heteronuclear compounds by use of [Ti(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>PPh<sub>2</sub>)<sub>2</sub>(SR)<sub>2</sub>] (R = Et or Ph) as metalloligands. Crystal structures of [Mo(CO)<sub>4</sub>]<sub>2</sub>[μ-(Ph<sub>2</sub>PC<sub>2</sub>H<sub>4</sub>)<sub>2</sub>Ti(SPh)<sub>2</sub>] and [(OC)<sub>4</sub>Mo(μ-Ph<sub>2</sub>PC<sub>2</sub>H<sub>4</sub>)<sub>2</sub>Ti(μ-SPh)<sub>2</sub>Pt(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>], 3201

Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated [M<sub>3</sub>(μ-H)(CO)<sub>6</sub>(μ-NC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>] (M = Ru or Os) and ferrocene chromophores bridged by an aromatic unit, 3209

## CRYSTAL STRUCTURE (contd)

Carbon-fluorine and -hydrogen bond activation and carbon-carbon bond formation in  $n^5$ -pentamethylcyclopentadienyl-rhodium and -iridium phosphine complexes; crystal structures of  $[M(n^5-C_5Me_5Cl)(C_6F_5)_2PCH_2CH_2P(C_6F_5)_2]^{+}BF_4^{-}$  ( $M = Rh$  or  $Ir$ ), 3215

Cascade complexation of pseudo-halide by dicopper cryptates: a linear Cu-NNN-Cu unit, 3227

Reactions of cyano-iron- and -ruthenium compounds with *gem*-dicyanoperoxides. A new pathway to vinyl isocyanide complexes of iron and ruthenium, 3231

Crystal structure of high-spin ( $S = \frac{5}{2}$ ) manganese(II) 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrinate, 3243

Syntheses of new copper(II) mixed-ligand complexes and their chromatographic properties in solution and in the solid state, 3251

Synthesis, characterization and crystal structure of cyclic vanadate complexes with monosaccharide derivatives having a free adjacent diol system, 3257

Low-co-ordination arsenic and antimony compounds: synthesis and characterisation of 2-arsa- and 2-stiba-1,3-dionatolithium(I) complexes,  $[L^-(OC(R)EC(R)\ddot{O})L]$  ( $E = As$  or  $Sb$ ;  $R = Bu^t$ ,  $C_6H_5Pr^t$ -2,4,6 or  $C_6H_5Bu^t$ -2,4,6;  $L = Et_2O$  or  $MeOCH_2CH_2OMe$ ), 3277

Synthesis, structure, photophysics, time-resolved emission spectroscopy and electrochemistry of luminescent copper(I) acetylide complexes, 3283

Synthesis, crystal structure and redox properties of  $\mu$ -oxo-bis( $\mu$ -acetato)dirutonium(III) complexes having 2,2'-bipyridine and imidazole bases as terminal ligands, 3289

A  $Fe^{III}O_4N_2$  co-ordination sphere assembled via an enolate-imine-amide ligand. Effect of amide protonation on the redox behaviour and stereochemistry of the iron(III) centre, 3293

Unidentate nitrogen base adducts of aluminium trichloride, 3297

Reaction of  $R_3AsI_2$  ( $R = Me$  or  $Et$ ) with zinc metal powder to produce  $ZnI_2(AsMe_3)_2$  and  $[ZnI_2(AsEt_3)_2]$ , the first tertiary arsine complexes of zinc(II), 3309

The monophenylhydrosilasesquioxanes  $PhH_{n-1}Si_nO_{1.5n}$  where  $n = 8$  or 10, 3313

Conformational polymorphism and fluxional behaviour of  $M(PR_3)_2$  units in *cis*-twelve-atom metalla-heteroboranes with  $MX_2B_9$  ( $X = C$  or  $As$ ) and  $MZB_{10}$  cages ( $Z = S$ ,  $Se$  or  $Te$ ), 3323

Pentanuclear cluster of palladium(II) bridged by telluride ions: synthesis and crystal structure of  $[Pd_5(\mu_3-Te)_4-(Ph_2PCH_2CH_2PPh_2)_4]^{2+}$ , 3335

Preparations and structures of two *cis,cis*-1,3,5-triaminocyclohexane-based complexes containing hydrogen-bonded solvent molecules, 3337

Molybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[Mo_2Ru_2(\mu_3-S)_2(\mu-SPr^t)_2(CO)_4(n-C_5H_5)_2]$  (1996, 2403), 3341

X-Ray diffraction and solid-state nuclear magnetic resonance study of silicate containing two different nitrogenous cations, 3349

Layered, network and chain structures of cadmium(II) malonate: crystal structure and cadmium-113 nuclear magnetic resonance studies, 3363

Molybdenum-mediated cocyclisation reactions involving prop-2-ynyl, alkyne and carbon monoxide ligands, 3379

Reaction of the  $\eta^2(4e^-)$ -donor alkyne complexes  $[Mo(\eta^2(4e^-)-R^1C_2R^2)^2(P(OMe))_3]_2(\mu-C_5H_5)$  ( $R^1 = R^2 = Ph$  or  $Me$ ;  $R^1 = Me$ ,  $R^2 = Ph$ ) with the Grignard reagents  $MgR^3(X)$  ( $R^3 = Me$ ,  $Et$ ,  $CH_2Ph$ ,  $CH_2CH=CH_2$  or  $CH=C(CH_3)_2$  and  $CH_2(MgI)_2$ ), 3387

Synthesis, photophysics and electrochemistry of  $[Au(dppf)R_2]$  [ $dppf = Fe(n-C_5H_5PPh_2)_2$ ;  $R =$  alkyl, aryl or alkynyl]. Crystal structure of  $[Au_2(dppf)(C_16H_2)_2]$  ( $C_16H_2 =$  pyren-1-yl), 3411

Template synthesis of helicates of  $[2 + 2]$  tetraamine macrocycle: crystal structure of the lead(II) perchlorate complex, 3421

Nickel(II)  $N_2O_2$  Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437

Structure of copper(II) complexes with L-leucyl-D- or L-leucyl-L-phenylalanine and molecular orbital calculations on their stabilization, 3449

Zinc(II) complexes of phosphonic acid analogues of glutamic acid, 3455

Model complexes for the carboxylate-histidine-metal triad systems in metalloenzymes. Synthesis, crystal structures and spectroscopic properties of  $[M(Him)_2(O_2CMe)_2]$  ( $M = Zn^{II}$  or  $Co^{II}$ ,  $Him =$  imidazole), 3465

Polynuclear aggregation of cobalt and manganese dichlorides. Synthesis, properties and structures of monomeric  $[CoCl_2(tmen)]$ , ionic  $[Co_3(\mu_3-Cl)_2(\mu-Cl)_2(tmen)_3][BPh_4]$ , polymeric  $MnCl_2$ -tmen and tetrานuclear  $[Mn_4(\mu-Cl)_6Cl_2(tmen)_4]$  ( $tmen = Me_2NCH_2CH_2NMe_2$ ), 3469

Synthesis and crystal structures of heterobimetallic 2-(diphenylphosphino)pyridine complexes containing an  $Fe-M$  ( $M = Cu^I$ ,  $Ag^I$  or  $Hg^{II}$ ) donor-acceptor bond and a mononuclear iron(II) complex bearing a pair of planar strained four-membered chelate rings, 3475

Synthesis and structural characterization of the new quadridentate  $N_2S$ -compound di-2-pyridyl ketone thioureas and its binuclear copper(II) complexes, 3485

Synthesis of the 17-electron cations  $[Fe(L)(NO)]^+$  ( $L, L' = PPh_3$ ,  $OPPh_3$ ): structure and bonding in four-co-ordinate metal dinitrosyls, and implications for the identity of paramagnetic iron dinitrosyl complex catalysts, 3491

Synthesis and characterization of nickel-group bis(dithiocroconate) complexes and dicyanomethylene-substituted analogues, 3507

Syntheses, structures and chemistry of the high-nuclearity ruthenium hydrido cluster anions  $[Ru_{10}H_2(CO)_{23}]^{2-}$  and  $[Ru_7H(CO)_{27}]^{3-}$ , 3515

Synthesis, characterisation and electrochemical analysis of a bis-(ferrocenyl) vinyl allyl ether-substituted triosmium cluster, 3521

Electron-transfer salts derived from  $N,N'$ -dicyano-*p*-benzoquinone diimines and the novel dinuclear organometallic donor  $[Fe_2(n-C_5Me_5)_2(\mu-SEt)_2(CO)_2]$ , 3533

Small-molecule model phosphazenes with *para*-substituted phenoxy side groups: synthesis, crystal structures and comparisons with corresponding high polymers, 3549

Synthesis and crystal structure of a dinuclear rhodium complex. Catalytic activity of mono- and di-nuclear rhodium phosphite complexes in hydroformylation, 3561

Phenyl nickel complexes with a chelating P,N ligand. Structures of  $Ph_3P=CHC=(NP)Ph$  and  $[\text{NiPh}_2PCH=CHC(=NP)Ph-\{\text{Ph}_3P=CHC(=NP)Ph-N\}]$ , 3571

Synthesis, structural characterisation and nuclear magnetic resonance studies of cobalt complexes of pyridonate ligands, 3575

Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1 : 1 and 2 : 1 equilibria between  $I_2$  and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenabis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit- $2I_2$  and ebit- $2I_2$ , 3583

Dilithium diamides  $[(LiOC(R)_2)_2(C_20H_{12}(NR)_2)]$  ( $R = SiMe_3$  or  $CH_2Bu^t$ ) derived from  $R$ -,  $S$ - or  $R,S$ -2,2'-diamino-1,1'-binaphthyl derivatives, 3595

Synthesis of heteropolynuclear complexes with 1,1,1-tris-(diphenylphosphinomethyl)ethane. Crystal structure of  $[(OC)_4Mo\{(Ph_2PCH_2)_2CMe(CH_2PPh_2)\}AuCl]$ , 3603

Synthesis and structure of an organic-soluble cage aluminophosphate, 3609

$\eta^7 \longrightarrow \eta^3$  Hapticity interconversion in cycloheptatrienyl complexes of molybdenum and tungsten. Crystal structures of  $[Mo(NCS)(CO)_2(C_{10}H_8N_2)(\eta^3-C_7H_7)]$  and  $[MoCl(CO)_2(Ph_2PCH_2CH_2PPh_2)(\eta^3-C_7H_7C_6H_5F-4)]$ , 3629

Diphosphine derivatives of urea and thiourea, 3647

2,4-Diferoenyl-1,3-dithiadiphosphetane 2,4-disulfide; structure and reactions with catechols and  $[PtCl_2(PR_3)_2]$  ( $R = Et$  or  $Bu^t$ ), 3653

Complexes of  $[Ph_2P(O)NP(E)Ph_2]^-$  ( $E = S$  or  $Se$ ): disparate ring conformations within a new palladacycle, 3659

A new route to diiron bis( $\mu$ -thiocarbene) complexes: molecular structure of  $[(Fe[\mu-C(CN)SMc](cp))]_2$  ( $cp = \eta^3-C_5H_5$ ) containing the unusually folded six-membered metallocycle  $Fe_2C_2S_2$ , 3693

Photophysical properties and crystal structures of luminescent phenylethylnylgold(I) complexes of alkyl and aryl isocyanides, 3699

A new class of mixed aza-thioether crown containing a 1,10-phanthroline sub-unit, 3705

Synthesis and characterisation of selenoether macrocyclic complexes of  $Co^{III}$ ,  $Rh^{III}$  and  $Ir^{III}$ : crystal structures of  $trans-[CoBr_2([16]aneSe_4)]BPPh_4$  and  $trans-[IrBr_2([16]aneSe_4)]BPPh_4$  ( $[16]aneSe_4 = 1,5,9,13$ -tetraselenacyclohexadecane), 3713

Syntheses and characterization of novel tri- and hexa-nuclear zinc complexes with biomimetic chelate ligands, 3731

Structurally diverse copper(II) herbicide complexes: mono- and bi-nuclear neutral or cationic complexes, 3737

Uncapped and polar capped prisms of cobalt and nickel, 3745

Reactions of imido complexes of iridium, rhodium and ruthenium, 3771

Preparation and characterization of rhodium(III) complexes containing 1,1,1-tris(dimethylphosphinomethyl)ethane (tdmme). Structures of  $[RhX_3(tdmme)]$  ( $X = Cl$ ,  $Br$  or  $I$ ),  $[Rh(NH_3)_3(tdmme)]^{3+}$  and  $[(Rh(tdmme))_2(\mu-X)_3]^{3+}$  ( $X = Cl$  or  $OH$ ) in the solid state and in solution, 3779

Molecular structure of  $[Tl(tpp)(O_2CCF_3)]$  and  $^{19}F$  dynamic nuclear magnetic resonance of it and  $[(Tl(tmpp)(O_2CCF_3)]$  ( $tpp = 5,10,15,20$ -tetraphenylporphyrinate,  $tmpp = 5,10,15,20$ -tetra(4-methoxyphenyl)porphyrinate], 3787

Role of bifunctional N/S bridging in the association of metals; syntheses and structures of heterobimetallic  $[(Ph_3P)_2CuL_2Li(thf)_2]_n$  and tetrameric  $[(CuL(Ph_3P)_4)]$  ( $L = 1,3$ -benzoxazoline-2-thionate,  $thf =$  tetrahydrofuran), 3793

A pyrazolate-bridged cyclic tetranuclear copper(II) complex: synthesis, crystal structure and magnetic properties, 3799

## CRYSTAL STRUCTURE (contd)

5-Aminoorotic acid, a versatile ligand with the ability to exhibit differing co-ordination and hydrogen-bonding modes: synthesis and crystal structures of platinum(II) complexes, 3805

Macropolyhedral boron-containing cluster chemistry. An X-ray diffraction and nuclear magnetic resonance study of the double cluster 11-vertex : 11-vertex tetracarboraborane  $C_4B_{18}H_{22}$ , 3813

Reactions of carbon disulfide with open *nido*-6-iridadecaboranes. The formation of closed ten-vertex cluster compounds with boron-to-metal dithioformate bridges and a novel *isocloso* — *closo* cluster conversion, 3819

Synthesis and characterisation of diphenylvinylphosphine-substituted osmium and ruthenium carbonyl clusters; crystal and molecular structures of  $[Os_3(CO)_11(Ph_2PCH=CH_2)]$  and  $[Os_3(\mu-H)(CO)_9(\mu-Ph_2PCH=CH_2)]$ , 3825

Synthesis and crystal structures of two isomers of  $[Ru_4(CO)_9(\mu_3-C_{15}H_{20})]$ , 3833

Difunctionalised arene Ru<sub>6</sub>C cluster compounds with electron-withdrawing groups, 3837

Substitution reactions of  $[Ge_2Co_2Fe_2(CO)_9]$  with methylgermanes, and its decarbonylation. Structures of  $[Fe_2(\mu_3-GeCo_2(CO)_9(\mu-GeMe_2)_2(CO)_7)]$  and  $[Fe_2(\mu_3-GeCo_2(CO)_9)_2(CO)_7]$ , 3853

Structural characterization of possible intermediates in vanadium-catalysed sulfide oxidation, 3865

Molecular structure of novel polymer-like complexes of armed-azacrown ethers with alkali-metal cations, 3871

Synthesis and spectroscopy of unsymmetrical mononuclear lanthanide cryptates. Structure of two europium(III) cryptates co-existing in the same crystal  $[Eu(L(OH_2))_3][Eu(HL)(NCS)] \cdot 9H_2O$  2-MeCN-EtCN-EtOH ( $H_3L$  = a phenol-bridged  $N_3O_3$  Schiff-base cryptand), 3883

Thermodynamic  $\alpha$ -CH acidities of amino acid fragments in five-co-ordinate bicycloazastannoxides in Me<sub>2</sub>SO, 3889

Cyclic oxacarbone complexes of the cycloheptatrienylmolybdenum auxiliary Mo<sub>2</sub>( $\eta$ -C<sub>7</sub>H<sub>7</sub>), L = CO or P-donor ligand: isolation and subsequent cyclisation of a hydroxyvinylidene intermediate, 3893

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of PPh<sub>3</sub> with gold(I) halides; crystal structure of  $[AuBr(PMe_3)]$  (1996, 3121), 3897

Dismantling a dinuclear metallacyclopentadiene: alkyne scission in cobalt-molybdenum clusters, 3909

Synthesis, characterization and molecular structure of a triruthenium carbonyl cluster containing both phenylimido and nitrosobenzene ligands, 3911

Axial ligand substitutions in *trans*-bis[1,2-phenylenebis-(dimethylarsine)] complexes of ruthenium(II), 3917

Reversible adduct formation between phosphines and triarylboron compounds, 3931

Syntheses, characterization and structural chemistry of biladien-*ac*-10-one and -*bc*-5-one metal complexes with 4N or (3N + O) co-ordination, 3937

Intramolecular electron transfer in linear trinuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyano-manganese ligands, 3977

Synthesis, structure and characterisation of  $[Ni(bipy)_3][NaAl(ox)_3]$  (bipy = 2,2'-bipyridine, ox = oxalate), 3985

Synthesis of the cobalt-tellurium 'stellar' octahedral clusters  $[Co_3(\mu_3-Te)(PET_3)_6]^{n+}$  ( $n = 1$  or 2). Molecular structure of  $[Co_3(\mu_3-Te)(PET_3)_6][PF_6]_n$ , 3991

Multimetallic complexes of molybdenum(II) and tungsten(II) derived from  $[W_2(CO)\{PhP(CH_2CH_2PPh_2)_2P,P'\}(\eta^2-RC_2R)]$  (R = Me or Ph). Crystal structures of  $[W_2(CO)\{PhP(CH_2CH_2PPh_2)_2P,P'\}(\eta^2-MeC_2R)]$  (R = Me or Ph), 3995

1,4,7-Trithiacyclononane ( $[9]aneS_3$ ) and 2,5,8-trithia[9]orthocyclophane complexes of molybdenum(II) and tungsten(II): crystal structures of  $[WI(CO)([9]aneS_3)][BF_4]^-$  and  $[WI_2(CO)_3(NCMe)(PPh_3)]$ , 4003

Synthesis and photophysics of dinuclear gold(I) thiolates of bis(diphenylphosphino)-alkyl- and -aryl-amines. Crystal structure of  $[Au_2(Ph_2PN(C_6H_5)PPPh_2)(SC_6H_4P-p)_2]$ , 4019

Formation of  $[CoPt_2Cl_2(PPh_3)_4(\mu_3-S_2)]$  from facile heterometalation of  $[Pt_2(PPh_3)_4(\mu_3-S_2)]$  and its facile deheterometalation via carbonylative desulphurization to give Pt-Pt bonded  $[Pt_2(CO)_2(PPh_3)_4(\mu-S)]$ , 4023

Preparation and crystal structure of  $[(AlBr_3)_2(Se_2N_2)]$ , the first example of a main-group element adduct of diselenium dinitride, 4029

A chiral tetrานuclear platinum(II) cluster complex,  $[Pt_4(O_2CMe)_6(pro)_2]$  (Hpro = L-proline), 4031

Synthesis and characterisation of the chloride-bridged copper-ruthenium cluster dianion  $[(Ru_2Cu_2C(CO)_{16})_2Cl_2]^{2-}$ , 4033

New class of mixed sandwich cycloheptatrienylchromium complex: crystal structures of the redox pair  $[Cr(\eta-C_9H_8Me)-(\eta-C_7H_6C_6Me-4)][PF_6]_n$  ( $n = 1$  or 2), 4035

Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diron(III) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037

Entrapment of a Pt-H bond by a cavity-shaped receptor, 4041

Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes  $MC_6L$  ( $M = As, Sb$  or  $Bi$ ;  $L = 1,4,7$ -trimethyl-1,4,7-triazacyclononane). Formation and crystal structures of  $[AsCl_3L][AsOCl_3]$ ,  $[H_2L]_2[SB_6OCl_6]Cl_2$ ,  $[HL]_2$  and  $[H_2L]_2[SB_6Cl_6]Cl_2$ -MeCN-H<sub>2</sub>O, 4045

Synthesis, molecular structure and palladium(II) and platinum(II) complex chemistry of 3-(ferrocen-1-yl)-1-(pyridin-2-yl)pyrazole, 4055

Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes *via* sulfenamido rearrangement, 4063

Ruthenium tris(pyrazolyl)borate complexes. Formation and characterization of acetone, dimethylformamide and vinylidene complexes containing N,N-donor co-ligands, 4071

Synthesis, structural characterisation, electron paramagnetic resonance and magnetic studies of homoleptic copper complexes of pyridonate ligands, 4077

Reactions of the linear triosmium cluster  $[Os_3H(CO)_{11}(\eta^2-C_6F_5NNNC_6F_5)]$  with  $[Os_3(CO)_{12-n}(NCMe)_n]$  ( $n = 1$  or 2): crystal structures of  $[Os_3(\mu-H)(CO)_{11}(\eta^2-C_6F_5NNNC_6F_5)]$  and  $[Os_3(\mu-H)(CO)_{11}(\eta^2-C_6F_5NNNC_6F_5)]$ , 4083

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiolene d<sup>1</sup> and d<sup>0</sup> niobium complexes, 4093

Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphathia ligands and their chalcogenide derivatives, 4099

Metallocene-nucleobase conjugates. Synthesis, structure and nucleic acid binding, 4115

Chloride- and dihydrogenphosphate-selective anion recognition by new acyclic mono-, bi- and tri-cobaltocenium receptors, 4129

Conformational trends in arsocane dithiophosphinates  $X(CH_2CH_2S)_2As_2PR_2$  ( $X = O$  or  $S$ ; R = Me, Et or Ph), 4135

Derivatives of Group 4 metal amide chlorides and fluorides: synthesis, structure and characterization of novel dimethyl and fluoro-chloro complexes, 4143

Synthesis, characterisation and electrochemistry of the novel ferrocenyldiene diyltriosmium cluster  $[Os_3(CO)_9(\mu_3-\eta^4-Fe[C_6H_4(C_6SiMe_3)]_2)]$ , 4147

Camphor-based  $\beta$ -hydroxyphosphoryl ligands and their complexes of the type  $[MoO(O_2L(H_2O))]_2$ , 4149

Build-up of an Al<sub>8</sub>P<sub>4</sub>L<sub>4</sub> cage from an Al<sub>4</sub>N<sub>4</sub> cube: synthesis and structure of  $[Li_2OC_4H_9]_4[(AlMe)(\mu-P(C_6H_11))_2(\mu-P(C_6H_11))]_2$ , C<sub>6</sub>H<sub>5</sub>Me, 4153

Macropolyhedral boron-containing cluster chemistry: nineteen-vertex  $[(PPh_3)Ni_2B_6H_{12}(PPh_3)]$  and eighteen-vertex  $S_2B_6H_{14}(PPh_3)$ , 4155

Novel structural forms for imidoamides and oxaoalkoxides of bismuth, 4159

Aluminum amides derived from metallation of *N,N*-di-*tert*-butylethylenediamine, 4163

Synthesis and reactivity of the formally co-ordinatively unsaturated diruthenium hydride  $[Ru_2(\mu-H)(\mu-CO)(CO)_7\{\mu-(PrO)PNEt_2P(OPr)_2\}]^{2+}$  and its co-ordinatively saturated parent  $[Ru_2H(CO)_5\{\mu-(PrO)PNEt_2P(OPr)_2\}]^{2+}$ , 4171

Reactions of gallium(III) chloride with Li(E(SiMe<sub>3</sub>)<sub>2</sub>) (E = Si or Ge): crystal structure of  $(R_3Ge)ClGa(\mu-OEt)_2GaCl(GeR_3)$  (R = SiMe<sub>3</sub>), 4183

Cyclic and open-chain derivatives of bis(trihydrosilyl)benzenes, 4193

Bent *versus* linear imido ligands in five-co-ordinate molybdenum complexes, 4197

Amide nitrogen co-ordination of Co<sup>II</sup> and Ni<sup>II</sup> in ternary 2,2'-bipyridine-containing systems. A solution and solid-state study, 4201

A convenient high yield synthesis of 2,2':6,2':6,2":6,2":6,2":6,2"-sexipyridine and helical transition-metal complexes of substituted sexipyridines, 4207

Synthesis and characterization of gold(III) adducts and cyclometallated derivatives with 6-benzyl- and 6-alkyl-2,2'-bipyridines, 4217

Macrocyclic dimeric vanadium(IV) and heterodinuclear vanadium(IV)-nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

Versatile ligand behaviour of phenyl 2-pyridyl ketone benzoylhydrazone in palladium(II) complexes, 4239

Structural and spectroscopic studies on 36-membered ring arrays formed by copper(II) halides with 1-(4-picolyl)pyrrolidin-2-one, 4245

Ruthenium(II) complexes of some new polynucleating ligands incorporating terpyridyl and macrocyclic aza-crown binding sites, 4249

Preparation and crystal structure of an oxoimido complex of molybdenum containing the 2,4,6-triphenylphenylimide ligand, 4265

**CRYSTAL STRUCTURE (contd)**

Synthesis, structure and reactivity of cobalt(III) complexes with tridentate imino- and amino-oxime ligands, 4269  
 Crystal structure, magnetic properties and spectroscopic studies of bis[1,3-bis(pyrazol-3-yl)triazenido]dicopper(II) trihydrate: a dinuclear complex with an asymmetric double pyrazolate bridge, 4275  
 Models of the active sites of zinc-containing enzymes: the structure of acetato[hydrotris(3-*tert*-butyl-5-methylpyrazol-1-yl)borato]-zinc(II), 4283  
 Nitrate- and nitrite-ligated 3,6-bis(imidazolyl)pyridazine-bridged dinuclear copper(II) cations with copper–copper separations similar to that in *Achromobacter cycloclastes* nitrite reductase, 4295  
 Crystal structures of nickel, copper and zinc naphthalocyaninates, 4303  
 Oxidative addition of diferrocenyl dichalcogenides to  $[\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)(\mu\text{-Cl})_2]$ . Syntheses, crystal structures and some reactivities of  $[\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)\text{Cl}(\mu\text{-ER})_2]$  ( $\text{E} = \text{S}, \text{Se or Te}; \text{R} = \text{ferrocenyl}$ ), 4307  
 Synthesis and structural characterisation of  $[\text{Pd}_2(\mu\text{-Br})(\text{PBu}_3)_2]$ , an example of a palladium(I)–palladium(I) dimer, 4313  
 Heteropolymer aggregates from  $[\text{Pd}_4(\text{dpdpf})_2(\mu\text{-S})_2]$ . Bonding and structural analysis of  $[\text{Ag}_2\text{Pd}_2(\text{dpdpf})_2(\mu\text{-S})_2] \cdot 4\text{CH}_2\text{Cl}_2$  [ $\text{dpdpf} = \text{Fe}(\text{C}_6\text{H}_4\text{PPh}_2)_2$ ]—a flat  $[\text{Pd}_2\text{S}_2]$  core with two  $\text{AgCl}$  ‘tails’, 4315  
 New preparative access to and the crystal and molecular structures of *cis*- $[\text{PtCl}_2(\text{CO})_2]$ , 4317  
 N-Methylation of diamino-substituted macrocyclic complexes: intermolecular reactions, 4319  
 N-Methylation of diamino-substituted macrocyclic complexes: intramolecular cyclisation, 4325  
 Synthesis, properties and characterization of the trinuclear clusters  $[\text{Co}_3(\mu\text{-SR})_6(\text{PET}_3)_3]\text{X}$  ( $\text{R} = \text{Me or Et}, \text{X} = \text{BPh}_4^-$  or  $\text{PF}_6^-$ ), 4337  
 Syntheses and crystal structures of phenyl(2-pyridyl)amido complexes of zirconium(IV), niobium(V) and tantalum(V), 4345  
 Mixed phosphito–phosphonato rhodium(I) complexes, 4357  
 Mixed iron–silicon–tin complexes stabilized by a phosphinoenolate bridging ligand. Crystal structure of  $[(\text{OC})_3(\text{MeO})_3\text{Si}-\text{Fe}(\mu\text{-Ph}_2\text{PCH}_2\text{C}(\text{O})\text{Ph})\text{SnBu}_3]^+$ , 4365  
 Mono- and di-nuclear complexes of molybdenum carbonyl derivatives with pyridine-2-carbaldehyde azine and phosphines: syntheses, structure, spectroscopic and electrochemical characterisation and solvatochromic effects, 4369  
 First-row transition-metal complexes of mixed ‘pendant-arm’ derivatives of 1,4,7-triazaacyclononane containing phenolate and carboxylate functional groups, 4409  
 Formation and structure of inclusion complexes involving  $\alpha$ -cyclodextrin and alkyl(aqua)cobaloxime, 4425  
 Preparation and characterization of carbene complexes of iron from azoyl and thiienyl precursors, 4431  
 Asymmetric syntheses, structures and co-ordination chemistry of palladium(II) complexes containing a chiral P,S hybrid bidentate ligand, 4443  
 (*R*)- and (*S*)-2-Diphenylphosphinoyl-2'-hydroxy-1,1'-binaphthalene: versatile chiral bidentate ligands, 4449  
 Trifluorotelluroacetyl fluoride, its cyclic dimer and precursors: preparation, characterisation and reactivity, 4463  
 Synthesis, solution and magic angle spinning tin-119 nuclear magnetic resonance studies and crystal structures of dithioether complexes of tin(IV) halides, 4471  
 Chemical origin of high activity in oxygenation of cyclohexane by  $\text{H}_2\text{O}_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479  
 Use of  $[\text{Ru}(\eta^5\text{-C}_5\text{H}_5)(\text{MeCN})_3]^+$  as a capping reagent in cluster build-up: synthesis and structural characterisation of  $[\text{Os}_2\text{Ru}_2(\text{CO})_1(\eta^5\text{-C}_5\text{H}_5)_2]$ , 4509  
 Mixed co-ordination numbers and geometries of gold(I) in a dinuclear complex of thioglycerol, 4511  
 Bridged bis(imido)molybdenum complexes: isolobal analogues of *ansa*-zirconocenes and bizirconocenes, 4513  
 Synthesis structure and reactivity of  $\eta^4(\text{Se})$ -butadienyl substituted molybdenum complexes, 4517  
 Molybdenum(II) chloride-tetrahydrothiophene (tht) complexes in the catalytic polymerization and cyclotrimerization of alkynes: structures and reactivities of the possible intermediates  $[\text{MoCl}_3(\text{tht})_2\text{PhC}\equiv\text{CR}]$  ( $\text{R} = \text{Me or Et}$ ), 4533  
 Tetraaza macrocycles containing pyridine and their copper(II) and nickel(II) complexes: X-ray, spectroscopic, molecular mechanics and molecular orbital studies, 4543  
 Second-order paramagnetic rhodium(II) complexes: solid-state structure and assignment of the carbon-13 magnetic resonance spectra in solution, 4563  
 Co-ordination chemistry of a P,O-donor ligand: synthesis of new complexes of Ru, Rh and Ir containing  $\text{Ph}_2\text{PNHP(O)Ph}_2$  or  $[\text{Ph}_2\text{PNP(O)Ph}_2]^-$ , 4575

**Silver complexes with the *nido*-diphosphine  $[7,8-(\text{PPh}_2)_2-7,8-\text{C}_2\text{B}_9\text{H}_{10}]^-$ , 4583**

**Tetraborane(10),  $\text{B}_4\text{H}_{10}$ : structures in gaseous and crystalline phases, 4589**

**Synthesis and isolation of two high-nucularity manganese(II) imido compounds: structural characterization of a compound containing a  $[\text{Mn}_6(\mu\text{-NPh})_4]^{4+}$  core, 4613**

**Thermolytic reaction of 1,4-diisopropenylbenzene with  $[\text{Ru}_3(\text{CO})_{12}]$ : an arene ligand as a template for cluster formation, 4621**

**Synthesis, characterization and molecular structure of two Ru<sub>4</sub> clusters with  $\beta$ -alkylstyrene ligands, 4629**

**Group 9 metal 1,1'-bis(phosphino)ferrrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633**

**CYANATE**

**Structure and magnetic behaviour of the first singly bridged nickel cyanate chain and a new dinuclear complex: an approximation to the superexchange mechanism for the nickel pseudohalide system, 1013**

**CYANIDE**

**Paramagnetic tetrahedral dinitrosyliron complexes containing redox-active cyanomanganese ligands, 1959**

**Triazene-bridged diiron complexes containing redox-active cyanomanganese ligands, 2511**

**Deprotonation reactions of the aminocarbene complex *trans*- $[\text{ReCl}(\text{CNH}_2)(\text{dppe})_2][\text{BF}_4^-]$  ( $\text{dppe} = \text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2$ ).**

**Synthesis and properties of the cyano-complexes *trans*- $[\text{Re}(\text{CN})\text{L}(\text{dppe})_2]$  ( $\text{L} = \text{NCR}, \text{N}_2, \text{CO}$  or  $\text{C}=\text{CHPh}$ ) and crystal structure of *trans*- $[\text{Re}(\text{CN})(\text{NCMe})(\text{dppe})_2]\text{Pr}^+\text{OH}$ , 2763**

**Reactions of cyano-iron and -ruthenium compounds with *gem*-dicyanoepoxides. A new pathway to vinyl isocyanide complexes of iron and ruthenium, 3231**

**Intramolecular electron transfer in linear trinuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyano-manganese ligands, 3977**

**CYCCLISATION**

**Molybdenum-mediated cocyclisation reactions involving prop-2-ynyl, alkyne and carbon monoxide ligands, 3379**

**Cyclic oxacarbene complexes of the cycloheptatrienylmolybdenum auxiliary  $\text{MoL}(\eta\text{-C}_7\text{H}_7)$ ,  $\text{L} = \text{CO}$  or P-donor ligand: isolation and subsequent cyclisation of a hydroxovinylidene intermediate, 3893**

**CYCLOADDITION**

**An improved synthesis of  $\text{SF}_5(\text{CN})$  and its cycloaddition reaction with  $\text{SNSAsF}_6$ . Crystal structure of  $\text{F}_5\text{SCNSNSAsF}_6$  and electron spin resonance spectrum of  $\text{F}_5\text{SCNSNS}^+$ , 383**

**Preparation and characterization of 1,3,2-dithiazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with  $\text{SNS}^+$ , 1997**

**CYCLOALKANEDIOLATE**

**Syntheses and electrochemistry of bimetallic complexes containing cyclohexanediolate or cyclopentanediolate bridges, 4401**

**CYCLOCONDENSATION**

**Unexpected ring contraction in the barium-assisted cyclocondensation of 2,6-diformylpyridine and *N,N*-bis(2-aminoethyl)-2-phenylethylamine, 1181**

**CYCLOCODEXTRIN**

**Novel, selective and co-operative assembly of cyclodextrins around  $[\text{1},8\text{-bis}(\text{pyridin-2-yl})-3,6\text{-dithiaoctane}]\text{Copper(II)}$ , 2609**

**Characterization and superoxide dismutase activity of copper(II) complexes of 6A,6X-disfunctionalized  $\beta$ -cyclodextrins, 4351**

**Formation and structure of inclusion complexes involving  $\alpha$ -cyclodextrin and alkyl(aqua)cobaloxime, 4425**

**CYCLOHEPTATRIENYL**

$\eta^7 \longrightarrow \eta^3$  Hapticity interconversion in cycloheptatrienyl complexes of molybdenum and tungsten. Crystal structures of  $[\text{Mo}(\text{NCS})(\text{CO})_2\text{C}_6\text{H}_4\text{N}_2](\eta^3\text{-C}_7\text{H}_7)$  and  $[\text{MoCl}(\text{CO})(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)(\eta^3\text{-C}_7\text{H}_6\text{C}_6\text{H}_4\text{F}-4)]$ , 3629

**Cyclic oxacarbene complexes of the cycloheptatrienylmolybdenum auxiliary  $\text{MoL}(\eta\text{-C}_7\text{H}_7)$ ,  $\text{L} = \text{CO}$  or P-donor ligand: isolation and subsequent cyclisation of a hydroxovinylidene intermediate, 3893**

**New class of mixed sandwich cycloheptatrienylchromium complex: crystal structures of the redox pair  $[\text{Cr}(\eta\text{-C}_7\text{H}_6\text{Me})-(\eta\text{-C}_6\text{H}_4\text{C}_6\text{H}_4\text{Me}-4)][\text{PF}_6]_n$  ( $n = 1$  or 2), 4035**

**CYCLOHEXADIENE**

**Isolation and structural characterisation of products from the reaction of  $[\text{Os}_4(\mu\text{-H})_4(\text{CO})_{10}(\text{MeCN})_2]$  with cyclohexa-1,3-diene, 2165**

**DIFUNCTIONALISED ARENE RUM<sub>6</sub>C CLUSTER COMPOUNDS WITH ELECTRON-WITHDRAWING GROUPS, 3837****CYCLOHEXANE**

**Preparations and structures of a series of novel, mono-substituted *cis,cis*-1,3,5-triaminocyclohexane-based complexes, 401**

**Preparations and structures of two *cis,cis*-1,3,5-triaminocyclohexane-based complexes containing hydrogen-bonded solvent molecules, 3337**

**CYCLOHEXENYL**

**Isolation and structural characterisation of products from the reaction of  $[\text{Os}_4(\mu\text{-H})_4(\text{CO})_{10}(\text{MeCN})_2]$  with cyclohexa-1,3-diene, 2165**

**CYCLOHEXYNE**

Isolation and structural characterisation of products from the reaction of  $[Os_4(\mu-H)_4(CO)_{10}(MeCN)_2]$  with cyclohexa-1,3-diene, 2165

**CYCLOMETALLATION**

A unified mechanistic view obtained from the temperature and pressure dependence of the spontaneous, acid-, and base-assisted cyclometallation reactions of dirhodium(II) complexes, 1045

Photoluminescent cyclometallated diplatinum(II,II) complexes: photophysical properties and crystal structures of  $[PtL(PPh_3)]ClO_4$  and  $[Pt,L(\mu-dppm)][ClO_4]_2$  ( $HL = 6\text{-phenyl-}2,2'\text{-bipyridine}$ , dppm =  $PPh_3PCH_2PPh_3$ ), 1645

Synthesis, characterisation and substitution reactions of gold(III) C,N-chelates, 3185

Synthesis and characterization of gold(III) adducts and cyclometallated derivatives with 6-benzyl- and 6-alkyl-2,2'-bipyridines, 4217

**CYCLOCHECTATETRAENE**

Monocyclooctatetraene uranium amide compounds in the +4 and +5 oxidation states, 947

**CYCLOPALLADATION**

A bis(cyclopalladated) tetrานuclear derivative of methyl ferrocenyl ketone azine:  $[Pd(\eta^5-C_5H_5)Fe(\eta^5-C_5H_5)CMe-\eta N]Cl(PPh_3)_2$ , 3195

**CYCLOPENTADIENYL**

Pentamethylcyclopentadienyl imido compounds of chromium, 271

Synthesis of new half-sandwich ruthenium complexes containing 1,2-bis(diisopropylphosphino)ethane (dippe); crystal structures of  $[Ru(C_5Me_5)Cl(dippe)]$  and  $[Ru(C_5Me_5)(O_2)dippe][BPPh_3]$ , 377

Cyclopentadienyl metal triflate ( $OTeF_6$ ) complexes, 509

Synthesis and characterisation of quinonide bridged dinuclear complexes of titanium and zirconium, 913

Synthesis and crystal structures of tris(2-methoxyethylcyclopentadienyl)lanthanide complexes, 955

Synthesis, structure and properties of new iron-molybdenum and -tungsten fulvalene-bridged heterobimetallic complexes, 1323

Synthesis and reactivity of hydrogen-rich uranium-rhenium compounds; an unsuspected detrimental effect of alkali-metal halide on chemical metathesis, 1487

Synthesis and spectroscopic characterization of a series of substituted cyclopentadienyl Group 4 fluorides; crystal structure of the acetylacetonato complex  $[(acac)_2(\eta^5-C_5Me_5)Zr(\mu-F)-SiMe_3Cl]_2$ , 1983

Prediction of crystal structures, 2077

Uranium(IV) bis(amido), imido and bis(acetylidyne) complexes: synthesis, molecular structure, solution dynamics and interconversion reactions, 2541

Unsaturated ether chelate complexes of ruthenium(II), 2571

Synthesis and characterisation of  $(\eta^5\text{-cyclopentadienyl})(\eta^5\text{-ring})\text{titanium alkyl}$  (ring = indenyl or  $C_5H_4Bu'$ ) complexes. Crystal and molecular structure of racemic  $[Ti(\eta^5-C_5H_5)-(\eta^5-C_5H_5)(CH_2SiMe_3)Cl]_2$ , 2843

Synthesis of heteronuclear compounds by use of  $[Ti(\eta^5-C_5H_5)Ph_2_2](SR)_2$  ( $R = Et$  or  $Ph$ ) as metalloligands. Crystal structures of  $[(Mo(CO)_4)_2\mu-(Ph_2PC_5H_4)_2Ti(SPh_3)]$  and  $[(OC)_4Mo(\mu-Ph_2PC_5H_4)_2Ti(\mu-SPh_3)P(C_5F_5)_2]$ , 3201

Carbon-fluorine and -hydrogen bond activation and carbon-carbon bond formation in  $\eta^5\text{-pentamethylcyclopentadienyl-rhodium}$  and -iridium phosphine complexes; crystal structures of  $[M(N^5-C_5Me_5)Cl((C_6F_5)_2PCH_2CH_2P(C_6F_5)_2)]^+BF_4^-$  ( $M = Rh$  or Ir), 3215

Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiobole d<sup>1</sup> and d<sup>0</sup> niobium complexes, 4093

**CYCLOPEPTIDE**

Copper(II) complexes with cyclo(L-aspartyl-L-aspartyl) and cyclo(L-glutamyl-L-glutamyl) derivatives and their antioxidant properties, 3093

**CYCLOPHANE**

A reinforced polyaza[n,n]paracyclophane containing piperazine rings, 239

Tuning of the electrochemical recognition of substrates as a function of the proton concentration in solution using pH-responsive redox-active receptor molecules, 343

One-, two- and three-dimensional copper(I) and silver(I) complexes of 2,11-dithia[3.3]paracyclophane, 1525

Rare-earth-metal solvent extraction with calixarene phosphates, 1687

A new class of mixed aza-thioether crown containing a 1,10-phenanthroline sub-unit, 3705

1,4,7-Tri thiacyclononane ( $[9]J_{aneS_3}$ ) and 2,5,8-trithia[9]orthocyclophane complexes of molybdenum(II) and tungsten(II): crystal structures of  $[W_1(CO)_5([9]J_{aneS_3})_2BPPh_4]$  and  $[W_1(CO)_5(NCMe)_2PPh_3]$ , 4003

**CYCLOPHOSPHANE**

Structural and two-dimensional phosphorus-31 nuclear magnetic resonance studies of derivatives from  $(RP)_5$  ( $R = Et$  or  $Ph$ ) and activated triosmium clusters  $[Os_3(CO)_10X_2]$  ( $X = \mu\text{-H}$  or  $NCMe$ ), 2773

Reactions of  $(F_3CP)_4$  and  $(F_3CP)_5$  with ruthenium and osmium carbonyl clusters: characterisation and crystal structures of the products, 3131

Structural and nuclear magnetic resonance studies of triosmium and triruthenium carbonyl cluster derivatives containing pentaphenylcyclopentaphosphane, 3843

**CYCLOPHOSPHAZENE**

Small-molecule model phosphazenes with *para*-substituted phenoxy side groups: synthesis, crystal structures and comparisons with corresponding high polymers, 3549

**CYTIDINE**

Stabilisation of unusual simultaneous binding of four cytosine nucleobases to copper(II) by a novel network of bifurcated hydrogen bonding, 1333

**CYTOCHROME**

The interaction between cytochrome c and *trans*-[PtCl<sub>2</sub>(NH<sub>3</sub>)<sub>2</sub>], 2223

Mössbauer and electron paramagnetic resonance studies on some new (bisigated) porphyrinatoiron(III) complexes with aliphatic amines. Models for cytochromes b, 2361

**CYTOSINE**

Stabilisation of unusual simultaneous binding of four cytosine nucleobases to copper(II) by a novel network of bifurcated hydrogen bonding, 1333

**DECARBOXYLATION**

Facile acid-promoted decarboxylation of a macrocyclic complex. Crystal structure of [6,14-diacyl-7,13-dimethyl-1,4,8,12-tetraazacyclotetradeca-1(15),5,7,13-tetra-2-olato]nickel(II), 1513

**DECOMPOSITION**

Studies on the thermal decomposition of basic lead(II) carbonate by Fourier-transform Raman spectroscopy, X-ray diffraction and thermal analysis, 3639

**DENSITY FUNCTIONAL CALCULATIONS**

Covalency in metal complexes of 1,4-diazabutadiene (dab). A density functional investigation of the electronic structures of  $[M(dab)_2]$  ( $M = Li$ , Ga or Co) and  $[Th(NH_3)(NH_2)_2(dab)]$ , 1583

Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067

On the electronic structures and spectra of  $NiCl_3$  and  $CuCl_2$ , 2601

Crystal structure of high-spin ( $S = \frac{5}{2}$ ) manganese(II) 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrinate, 3243

Density-functional study of the ground-and excited-spin states of  $[M_2Cl_4]^{2-}$  ( $M = Mo$  or  $W$ ) face-shared dimers: consequences for structural variation in  $A_3M_2Cl_6$  complexes, 4485

The electronic structure of 'linear' nickel oxides, 4555

**DEPROTECTION**

Electrochemical deprotection of a substrate binding site in  $[Mo(cp)(\mu-SMe)(\mu-Cl)]$  ( $cp = \eta^5-C_5H_5$ ) via chloride-bridge opening. Kinetics of MeCN and Bu<sub>n</sub>NC binding at this site, 3967

**DESULFURIZATION**

Formation of  $[CoPt_2Cl_2(PPh_3)_4(\mu_3-S)_2]$  from facile heterometallation of  $[Pt_2(PPh_3)_4(\mu-S)_2]$  and its facile deheterometallation via carboxylate desulfurization to give Pt-Pt bonded  $[Pt_2(CO)_2(PPh_3)_2(\mu-S)]$ , 4023

**DIALKYLCARBAMATE**

Preparation and characterization of dialkylcarbamato derivatives of niobium and tantalum, 311

**DIARSINE**

Axial ligand substitutions in *trans*-bis[1,2-phenylenebis(dimethylarsine)] complexes of ruthenium(II), 3917

**DIAZABUTADIENE**

Covalency in metal complexes of 1,4-diazabutadiene (dab). A density functional investigation of the electronic structures of  $[M(dab)_2]$  ( $M = Li$ , Ga or Co) and  $[Th(NH_3)(NH_2)_2(dab)]$ , 1583

**DIACACYCLOHEXANE**

Co-ordination chemistry of 1,4-bis(*o*-aminobenzyl)-1,4-diazacyclohexane (L) with nickel(II), copper(II) and palladium(II), 1659

**DIELS-ALDER**

Asymmetric syntheses, structures and co-ordination chemistry of palladium(II) complexes containing a chiral P,S hybrid bidentate ligand, 4443

**DIENE**

Tin-carbon bond formation by simple addition of cyclic dienes to a bis(amino)stannylene: a mechanistic study, 161

**DIENEDIYL**

Synthesis, characterisation and electrochemistry of the novel ferrocenyldiethyltriosmium cluster  $[Os_3(CO)_10(\mu_3-\eta^4-Fe[C_6H_4(C_2SiMe_3)_2])_2]$ , 4147

**DIENYL**

Synthesis and reactions of polymer-supported dicarbonyl(dienyl)-(triphenylphosphine)iron(0) complexes, 3747

**DIHYDROGEN**

New rhenium complexes with phosphinite  $PPh_2OR$  or phosphonite

**DIHYDROGEN (contd)**

$\text{PPh}(\text{OR})_2$  ( $\text{R} = \text{Me}$ ,  $\text{Et}$  or  $\text{Pr}^t$ ) ligands: synthesis and protonation of various polyhydrides, 2779

**DIIMINE**

Discrete dinuclear and polymeric copper(i) cations bridged by 4,4'-bipyridine, *trans*-1,2-bis(4-pyridyl)ethene or bis(4-pyridyl) disulfide, 1947

Electron-transfer salts derived from *N,N'*-dicyano-*p*-benzoquinone diimines and the novel dinuclear organometallic donor  $[\text{Fe}_2(\eta\text{-C}_5\text{Me}_5)_2(\mu\text{-SET})_2(\text{CO})_2]$ , 3533

Synthesis, structural characterisation and nuclear magnetic resonance studies of cobalt complexes of pyridonate ligands, 3575

**DIKETONATE**

Synthesis, structure and characterisation of magnesium and calcium  $\beta$ -diketonate complexes  $[\text{Ca}_2(\text{tmdh})_2]$  and  $[\text{Ca}_2(\text{tmdh})_2(\text{EtOH})_2]$  ( $\text{tmdh} = 2,2,6,6$ -tetramethylheptane-3,5-dione), 2435

Gas-phase reactions of cobalt(III)  $\beta$ -ketonolates with Brønsted acid reagents, 2727

Low-co-ordination arsenic and antimony compounds: synthesis and characterisation of 2-arsa- and 2-stiba-1,3-dionatolithium(i) complexes,  $[\text{Li}(\text{OC}(\text{R})\text{EC}(\text{R})\text{O})\text{L}]$  ( $\text{E} = \text{As}$  or  $\text{Sb}$ ;  $\text{R} = \text{Bu}^t$ ,  $\text{C}_6\text{H}_5\text{Pr}^t$ , 2,4,6 or  $\text{C}_6\text{H}_5\text{Bu}^t$ , 2,4,6;  $\text{L} = \text{Et}_2\text{O}$  or  $\text{MeOCH}_2\text{CH}_2\text{OMe}$ ), 3277

**DIMERISATION**

Codimerisation of CO and a 1,3-diynyl-metal complex on an Ru<sub>2</sub> cluster, 3151

**DINITROGEN**

Reduction of dinitrogen bound at an iron(0) centre, 3539

**DOXOLANE**

Synthesis and characterization of square-planar palladium(II), platinum(II) and rhodium(I) complexes with a chiral pyridyl-phosphine hybrid ligand, 1295

**DOIXYGEN**

Copper(I) and (II) complexes of a macrocycle derived from 2:2 condensation of pyridine-2,6-dicarbaldehyde and 4-azahexane-1,7-diamine; oxygenation of the copper(I) complex, 167

Synthesis of new half-sandwich ruthenium complexes containing 1,2-bis(disopropylphosphino)ethane (dippe); crystal structures of  $[\text{Ru}(\text{C}_5\text{Me}_5)\text{Cl}(\text{dippe})]$  and  $[\text{Ru}(\text{C}_5\text{Me}_5)(\text{O}_2)(\text{dippe})][\text{BPh}_4^-]$ , 377

**DIPHOSPHAZANE**

Oxidation behaviour of the unsaturated diruthenium species  $[\text{Ru}_2(\mu\text{-O})_2\text{CO}_2(\mu\text{-PrO})\text{PNEt}(\text{OPr})_2]_2$ , 1031

Synthesis and reactivity of the formally co-ordinatively unsaturated diruthenium hydride  $[\text{Ru}_2(\mu\text{-H})(\mu\text{-CO})(\text{CO})_2(\mu\text{-PrO})\text{PNEt}(\text{OPr})_2]^{+}$  and its co-ordinatively saturated parent  $[\text{Ru}_2\text{H}(\text{CO})_5(\mu\text{-PrO})_2\text{PNEt}(\text{OPr})_2]^{+}$ , 4171

**DIPHOSPHINE**

Reactions of the unsaturated alkyne cluster  $[\text{Os}_3(\text{CO})_3\{\mu\text{-}\eta^2(\perp)\text{-PhC}_2\text{Ph}\}(\text{dppm})]$  with P-donors; crystal structures of  $[\text{Os}_3(\text{CO})_3\text{PhC}_2\text{Ph}(\text{dppm})/\text{P}(\text{OMe})_3]$  and two isomers of  $[\text{Os}_3(\text{CO})_3\text{PhC}_2\text{Ph}(\text{dppm})/\text{PBu}_3]$  ( $\text{dppm} = \text{Ph}_2\text{PCH}_2\text{PPh}_2$ ), 117

Synthesis of new half-sandwich ruthenium complexes containing 1,2-bis(disopropylphosphino)ethane (dippe); crystal structures of  $[\text{Ru}(\text{C}_5\text{Me}_5)\text{Cl}(\text{dippe})]$  and  $[\text{Ru}(\text{C}_5\text{Me}_5)(\text{O}_2)(\text{dippe})][\text{BPh}_4^-]$ , 377

Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_2]$  ( $\text{M} = \text{M}' = \text{Cu}$ ,  $\text{Ag}$  or  $\text{Au}$ ;  $\text{M} = \text{Cu}$ ,  $\text{M}' = \text{Au}$ ;  $\text{dppf} = \text{Fe}(\eta^3\text{-C}_5\text{H}_5\text{PPPh}_2)_2$ ) and the crystal structures of  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_2]$  ( $\text{M} = \text{Cu}$  or  $\text{Au}$ ,  $\text{M}' = \text{Au}$ ), 643

Unexpected substitution reactions of bis(phosphine)platinum ethene complexes, 1039

Phosphorus donor complexes of bismuth(III). Structural characterisation of  $[\text{Bi}_2\text{Cl}_6(\text{Ph}_2\text{PCH}_2\text{PPh}_2)_2]$ ,  $[\text{Bi}_2\text{Cl}_6(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2]$  and  $[\text{Bi}_2\text{Cl}_6(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{CH}_2\text{PPh}_2)_2]$ , 1063

Linking metal centres with 1,4-bis(diphenylphosphino)-2,5-difluorobenzene (dpfb); syntheses and molecular structures of  $[\text{Mo}(\text{CO})_4(\mu\text{-dpfb})_2]$  and  $[\text{Mo}(\text{CO})_4(\mu\text{-dpfb})(\mu\text{-dppa})]$  ( $\text{dppa} = \text{Ph}_2\text{PC}=\text{CPh}_2$ ), 1077

Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(V) diphosphine complexes and related nitridorhenium(V) organometallics; crystal structure of  $[\text{Re}^{\text{V}}\text{N}(\text{C}=\text{CBu}^t)_2(\text{PPPh}_3)_2]$ , 1125

X-Ray absorption fine structure study of the structural changes accompanying spin cross-over in the acetone solvates of  $[\text{Fe}(\text{dppe})_2\text{X}_2]$  ( $\text{dppe} = \text{cis-}1,2\text{-bis(diphenylphosphino)-ethylene}$ ;  $\text{X} = \text{Cl}$  or  $\text{Br}$ ), 1275

Hydroxymethyl bis(phosphines) and their palladium(II) and platinum(II) complexes formed via biphasic reactions. Crystal structure of  $[\text{Pd}(\text{HOH}_2\text{C}_2\text{PC}_6\text{H}_4\text{P}(\text{CH}_2\text{OH})_2)_2\text{Cl}_2$ , 1301

Synthesis and characterisation of a novel nickel trihydride. Crystal structure of  $[\text{Ni}(\text{dippe})_2\text{H}_3][\text{BPh}_4^-]$  ( $\text{dippe} = \text{Pr}_2\text{PCH}_2\text{CH}_2\text{PPr}_2$ ), 1305

Photoluminescent cyclometallated diplatinum(II, II) complexes:

photophysical properties and crystal structures of  $[\text{PtL}(\text{Ph}_3)]\text{ClO}_4$  and  $[\text{Pt}_2\text{L}(\mu\text{-dppm})][\text{ClO}_4]_2$  ( $\text{HL} = 6\text{-phenyl-2,2'-bipyridine}$ ,  $\text{dppm} = \text{Ph}_2\text{PCH}_2\text{PPh}_2$ ), 1645

Synthesis and structural characterization of  $[\text{PtCl}_2\{\text{meso-P}(=\text{O})(\text{HOC}_2\text{CH}_2\text{P}(\text{OH})\text{Ph})_2\}]$  and structurally related derivatives, 1679

Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(I) complex, 1769

Synthesis and electrospray mass spectrometry of platinum(II) complexes of 5,5-diethylbarbituric acid (Hdebarb); crystal structure of *cis*- $[\text{PtCl}(\text{debarb})(\text{PPh}_3)_2]\text{CH}_2\text{Cl}_2$ , 1897

Nickel complexes of 1,2-bis(disopropylphosphino)ethane with sulfur-containing ligands, 1935

Bis(acetylide) complexes of ruthenium, 2011

Novel amphiphilic diphosphines: synthesis, rhodium complexes, use in hydroformylation and rhodium recycling, 2143

Bis(carboxylato) complexes of platinum(II). Structural and bonding analysis of  $[\text{Pt}(\text{O}_2\text{CR})_2\text{L}(\text{L}-)]$  ( $\text{L-L} = 2\text{PPh}_3$ ,  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$  or  $\text{Fe}(\text{C}_6\text{H}_4\text{PPh}_2)_2$ ;  $\text{R} = \text{Me}$ ,  $\text{CF}_3$ ,  $\text{Pr}^t$  or  $\text{Ph}$ ), 2207

Synthesis and characterization of cationic dinuclear complexes of platinum with bridging hydrides; crystal structures of  $[\text{Pt}_2(\mu\text{-H})_2(\text{C}_6\text{H}_{11})_2\text{P}(\text{CH}_2)_2\text{P}(\text{C}_6\text{H}_{11})_2]\text{BF}_4^-$ , 2315

Deprotonation reactions of the aminocarbonyl complex *trans*- $[\text{ReCl}(\text{CNH}_2)(\text{dppe})_2]\text{BF}_4^-$  ( $\text{dppe} = \text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2$ ).

Synthesis and properties of the cyano-complexes *trans*- $[\text{Re}(\text{CN})\text{L}(\text{dppe})_2]$  ( $\text{L} = \text{NCR}$ ,  $\text{N}_2$ ,  $\text{CO}$  or  $\text{C}=\text{CHPh}$ ) and crystal structure of *trans*- $[\text{Re}(\text{CN})(\text{NCMe})(\text{dppe})_2]\text{PrOH}$ , 2763

Reactivity of diphosphines towards methyl- and phenyl-mercury(II) ions. Crystal structure of  $[\text{Hg}(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2]\text{[O}_2\text{SCF}_3)_2$ , 2821

Photoluminescence, photoredox properties and crystal structures of rhenium(V)-benzylidyne complexes with phosphine ligands, 2827

Reactions of  $[\text{RhRu}_2\text{H}(\eta^3\text{-C}_5\text{Me}_5)(\text{CO})_2\text{BH}_2]$  with didentate phosphines and the synthesis and crystal structure of  $[\text{RhRu}_2\text{H}(\eta^3\text{-C}_5\text{Me}_5)(\text{CO})(\mu\text{-dpf-}P,P)\text{AuB}]$  ( $\text{dpf} = 1,1'\text{-bis(diphenylphosphino)ferrrocene}$ ), 2917

A new method of creating co-ordinative unsaturation: synthesis and reactions of a reactive iridium(I) complex  $[\text{Ir}(\text{CO})(\text{PPh}_2\text{CH}_2\text{C}(\text{Bu}^t)=\text{N}-\text{C}(\text{Bu}^t)\text{CH}_2\text{PPh}_2]\text{PF}_6^-$ .

crystal structures of  $[\text{Ir}(\text{CO})(\eta^3\text{-L})(\text{PPh}_2\text{CH}_2\text{C}(\text{Bu}^t)=\text{N}-\text{C}(\text{Bu}^t)\text{CH}_2\text{PPh}_2]\text{PF}_6^-$  ( $\text{L} = \text{MeO}_2\text{CC}\equiv\text{CCO}_2\text{Me}$  or  $\text{COCH}=\text{CHCONMe}$ ), 3111

Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrogen ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and olefins, 3139

Carbon-fluorine and -hydrogen bond activation and carbon-carbon bond formation in  $\eta^5\text{-pentamethylcyclopentadienyl-}$  rhodium- and -iridium phosphine complexes; crystal structures of  $[\text{M}(\eta^3\text{-C}_5\text{Me}_5)\text{Cl}(\text{C}_6\text{F}_5)_2\text{PCH}_2\text{CH}_2\text{P}(\text{C}_6\text{F}_5)_2]^{+}\text{BF}_4^-$  ( $\text{M} = \text{Rh}$  or  $\text{Ir}$ ), 3215

Synthesis, structure, photophysics, time-resolved emission spectroscopy and electrochemistry of luminescent copper(I) acetylidyne complexes, 3283

Pantanuclear cluster of palladium(II) bridged by telluride ions: synthesis and crystal structure of  $[\text{Pd}_5(\mu\text{-Te})_4(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_4]^{2-}$ , 3335

The reaction of HCl with  $[\text{MoH}_3(\text{CCBu}^t)(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2]$ : enforced protonation at the metal gives an alkyne, 3397

Synthesis, photophysics and electrochemistry of  $[\text{Au}_2(\text{dppfR}_2)]$  ( $\text{dppf} = \text{Fe}(\eta^3\text{-C}_5\text{H}_5\text{PPPh}_2)_2$ ;  $\text{R} = \text{alkyl, aryl or alkynyl}$ ). Crystal structure of  $[\text{Au}_2(\text{dppf})(\text{C}_6\text{H}_9)_2]$  ( $\text{C}_6\text{H}_9 = \text{pyren-1-yl}$ ), 3411

Cyclic acaracarbone complexes of the cycloheptatrienylmolybdenum auxiliary  $\text{MoL}_2(\eta\text{-C}_5\text{H}_7)$ ,  $\text{L} = \text{CO}$  or P-donor ligand: isolation and subsequent cyclisation of a hydroxyvinylidene intermediate, 3893

Intramolecular electron transfer in linear trinuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyanomanganese ligands, 3977

Synthesis, photophysics and photochemistry of alkynylgold(I) phosphine complexes, 4227

Synthesis and characterization of dioxorhenium complexes derived from water-soluble diphosphine tetraphosphonates, 4459

Silver complexes with the *nido*-diphosphine  $[7,8\text{-}(\text{PPPh}_3)_2\text{C}_2\text{H}_{10}]^{+}$ , 4583

Group 9 metal 1,1'-bis(phosphino)ferrrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633

**DISCUSSION**

Metal clusters: a personal perspective, 555

Gold – a flexible friend in cluster chemistry, 561

Metal-containing carbon clusters, 567

Diverse solid-state clusters with strong metal–metal bonding. In praise of synthesis, 575

Ligand-stabilized metal clusters and colloids: properties and applications, 589

Removing a second mercury atom from  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{2-}$ : synthesis of  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{4-}$  and crystal structure of  $[\text{PPPh}_3]^-\text{[Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{5-}$ , 597

Cluster core geometrical variation in heterometallic boride clusters

**DISCUSSION (contd)**

containing  $\text{RhRu}_4$  skeletons: crystal structures of  $[\text{RhRu}_4\text{H}_2(\eta^5\text{-C}_5\text{Me}_5)(\mu\text{-Cl})(\text{CO})_2\text{B}]$  and  $[\text{RhRu}_4\text{H}(\text{nbd})(\text{CO})_2\text{B}(\text{AuPPh}_3)]$  ( $\text{nbd}$  = norbornadiene), 603  
 What can calculations employing empirical potentials teach us about bare transition-metal clusters?, 611  
 Multinuclear solid-state nuclear magnetic resonance studies on transition-metal clusters containing hydrides, 625  
 Dynamic disorder in crystalline  $[\text{Fe}_2\text{Os}(\text{CO})_{12}]$  and direct evidence for rotation of the  $\text{Fe}_2\text{Os}$  triangle in the solid state from variable-temperature X-ray diffraction and  $^{13}\text{C}$  MAS NMR studies, 631  
 Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_2]$  ( $\text{M} = \text{M}' = \text{Cu, Ag or Au; M} = \text{Cu, M}' = \text{Au; dppf} = \text{Fe}(\eta^5\text{-C}_5\text{H}_5\text{PPh}_3)_2$ ) and the crystal structures of  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_2]$  ( $\text{M} = \text{Cu or Au, M}' = \text{Au}$ ), 643  
 The chemistry and the geometric and electronic structures of small naked metal clusters prepared using a rotating cryostat and studied by electron paramagnetic resonance, 653  
 Deposition and growth of noble metal clusters on graphite, 665  
 Preparation, characterisation and properties of Groups VIII and IB metal nanoparticles, 673  
 Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametalate derivatives, 681  
 Polyoxotitanates join the Keggin family: synthesis, structure and reactivity of  $[\text{Ti}_5\text{O}_9\text{H}_2][\text{OBu}']_7$ , 691  
 Characterisation of a cationic trimnobium aqua ion cluster and related studies, 703  
 Gas-phase metal sulfide cluster anions, 709  
 Dissolving alkali metals in zeolites: genesis of the perfect cluster crystal, 719  
 Synthesis and structural characterisation of new copper-tellurium clusters:  $\text{TeBu}(\text{SiMe}_3)$  as a source of  $\text{RTe}^-$  and  $\text{Te}^{2-}$  ligands, 729  
 Syntheses and structural characterisation of  $[\text{Ir}_4(\text{CO})_{11}(\eta^1\text{-L})]$  and  $[\text{Ir}_4(\text{CO})_{10}(\eta^1\text{-L})_2]$  ( $\text{L} = [\text{Fe}(\eta^5\text{-P}_3\text{C}_2\text{Bu}^3)_2](\eta^5\text{-P}_2\text{C}_2\text{Bu}^3)_2$ ) and  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\eta^5\text{-P}_3\text{C}_2\text{Bu}^3)_2]$ ) and  $[\text{Ir}_4(\text{CO})_{11}(\mu\text{-n}^1:\eta^1:\eta^1)[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\eta^5\text{-P}_3\text{C}_2\text{Bu}^3)_2]\text{Ir}_4(\text{CO})_{11}]$  and its facile conversion to  $[\text{Ir}_4(\text{CO})_{10}(\mu\text{-Fe}(\eta^5\text{-C}_5\text{H}_5)(\eta^5\text{-P}_3\text{C}(\text{CMc}_2\text{CH}_2)\text{CBu}^3))\text{Ir}_4(\text{CO})_{11}]$ , via an unusual C-H activation, 739  
 Characterization, redox properties and structures of the iron nitridocarbonyl clusters  $[\text{Fe}_6\text{N}(\text{CO})_{11}(\text{PPh}(\text{C}_6\text{H}_4\text{FeC}_6\text{H}_3)_2)]^-$ ,  $[\text{Fe}_6\text{N}(\text{CO})_{15}]^{2-}$  and  $[\text{Fe}_6\text{H}(\text{N})(\text{CO})_{15}]^{2-}$ , 747  
 Systematic synthesis of substituted hexanuclear phosphide- and phosphimidine-bridged osmium clusters, 755  
 Intrazeolite large palladium clusters prepared by organometallic chemical vapour deposition, 765  
 Laser-desorption mass spectrometry of  $[\text{Ru}_6\text{C}(\text{CO})_{17}]$  and its derivatives: cluster aggregation in the gas phase, 771  
 A route to the dispersion of ultrafine cobalt particles on zeolite Na-X through salt occlusion and reduction, 775  
 Stabilizing structure of tertiary amine-protected rhodium colloid dispersions in chloroform, 783  
 Surface-enhanced resonance-Raman scattering: an informative probe of surfaces, 791  
**DISELENOCARBAMATE**  
 Novel dithio- and diseleno-carbamates of zinc and cadmium as single-molecule precursors for low-pressure metal-organic chemical vapour deposition, 2491  
**DITHIADIPHOSPHETANE**  
 2,4-Diferoenyl-1,3-dithiadiphosphetane 2,4-disulfide; structure and reactions with catechols and  $[\text{PtCl}_2(\text{PR}_3)_2]$  ( $\text{R} = \text{Et or Bu}^{\oplus}$ ), 3653  
**DITHIOCARBAMATE**  
 Molybdenum(vi) imidodisulfur complexes formed via double sulfur-carbon bond cleavage of dithiocarbamates, 183  
 Nickel complexes of 1,2-bis(diisopropylphosphino)ethane with sulfur-containing ligands, 1935  
 Reactions of (diethyl)dithiocarbamato(halonotellurium(II); crystal structures of  $[\text{Te}(\text{S}_2\text{CNEt}_2)_2\text{X}_2]$  [ $\text{R} = \text{NEt}_4$ ,  $\text{X} = \text{I}$ ;  $\text{R} = \text{H}(\text{phen})_2$  ( $\text{phen} = 1,10\text{-phenanthroline}$ ),  $\text{X} = \text{I or Br}$ ], 2253  
 Novel dithio- and diseleno-carbamates of zinc and cadmium as single-molecule precursors for low-pressure metal-organic chemical vapour deposition, 2491  
 Neutral five-co-ordinate gallium(III) and indium(III) complexes derived from sulfur ligands, 2815  
 Controlled synthesis and reversible oxidation of a thiolate-bridged macrocyclic dinickel(II) complex, 3031  
 Synthesis, characterisation and substitution reactions of gold(III) C,N-chelates, 3185  
**DITHIOCARBAZATE**  
 Co-ordination chemistry of S-methyl 2-methyldithiocarbazate and formation of  $[\text{M}=\text{N}]^{2+}$  ( $\text{M} = \text{Tc or Re}$ ) species, 3105  
**DITHIOCARBONATE**  
 Nickel complexes of 1,2-bis(diisopropylphosphino)ethane with sulfur-containing ligands, 1935

**DITHIOCROCONATE**

Synthesis and characterization of nickel-group bis(dithiocroconate) complexes and dicyanomethylene-substituted analogues, 3507

**DITHIOFORMATE**

Reactions of carbon disulfide with open *nido*-6-iridadiacobanes. The formation of closed ten-vertex cluster compounds with boron-to-metal dithioformate bridges and a novel *isocloso* → *closo* cluster conversion, 3819

**DITHIOLE**

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiolene  $d^1$  and  $d^0$  niobium complexes, 4093

**DITHIOLENE**

Synthesis, structure and characterization of mixed cyclopentadienyl-dithiolene metal complexes,  $[\text{Co}(\eta^5\text{-C}_5\text{H}_5)_2][\text{Ni}(\text{C}_5\text{S}_2)_2]_2\text{MeCN}$  and  $[\text{Ni}(\eta^5\text{-C}_5\text{H}_5)(\text{C}_5\text{S}_2)_2]$ , 2261

Fourier-transform infrared study of short-lived highly reduced dithiolene complexes by potential-modulation spectro-electrochemical techniques, 2945

Electron spin resonance study of the frozen-solution equilibrium  $[\text{Co}(\text{S}_2\text{C}_2(\text{CF}_3)_2)_2\text{L}] + \text{L} \rightleftharpoons [\text{Co}(\text{S}_2\text{C}_2(\text{CF}_3)_2)_2\text{L}_2]$  ( $\text{L} = \text{P}(\text{OR})_3$  or  $\text{PPh}(\text{OMe})_2$ ,  $\text{R} = \text{alkyl}$ ), 3503

Synthesis and characterization of nickel-group bis(dithiocroconate) complexes and dicyanomethylene-substituted analogues, 3507

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiolene  $d^1$  and  $d^0$  niobium complexes, 4093

**DITHIONITRYLIUM**

Preparation and characterization of 1,3,2-dithiazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with  $\text{SNS}^+$ , 1997

**DITHIOPHOSPHATE**

Synthesis, crystal structure and non-linear optical properties of two new cluster compounds,  $[\text{MoCu}_3\text{OS}_2(\text{PPh}_3)_3(\text{S}_2\text{P}(\text{OBu}'))_2]$  and  $[\text{MoAg}_3\text{S}(\text{PPh}_3)_3(\text{S}_2\text{P}(\text{OBu}'))_2]$ , 2617

**DITHIOPHOSPHINATE**

Conformational trends in arsocane dithiophosphinates

$\text{X}(\text{CH}_2\text{CH}_2\text{S}_2)\text{AsS}_2\text{PR}_2$  ( $\text{X} = \text{O or S; R} = \text{Me, Et or Ph}$ ), 4135

**DIVINYL**

Codimerisation of CO and a 1,3-diynyl-metal complex on an  $\text{Ru}_3$  cluster, 3151

**DNA**

8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391

**DYNAMIC DISORDER**

Dynamic disorder in crystalline  $[\text{Fe}_2\text{Os}(\text{CO})_{12}]$  and direct evidence for rotation of the  $\text{Fe}_2\text{Os}$  triangle in the solid state from variable-temperature X-ray diffraction and  $^{13}\text{C}$  MAS NMR studies, 631

**DYNAMICS**

Synthesis and solution fluxionality of rhenium(I) carbonyl complexes of 2,4,6-tris(pyrazol-1-yl)-1,3,5-triazines ( $\text{L}$ ),  $[\text{ReX}(\text{CO})_3\text{L}]$  ( $\text{X} = \text{Cl, Br or I}$ ). Characterization of  $[\text{ReX}(\text{CO})_3\text{L}]$  ( $\text{X} = \text{Cl or Br}$ ), 3371

Synthesis and nuclear magnetic resonance investigation of 1-phenylpropene-1,2-dione 2-oxime complexes of trimethylplatinum(IV), 3543

Molecular structure of  $[\text{Tl}(\text{tpp})(\text{O}_2\text{CCF}_3)_2]$  and  $^{19}\text{F}$  dynamic nuclear magnetic resonance of it and  $[\text{Tl}(\text{tmpp})(\text{O}_2\text{CCF}_3)_2]$  ( $\text{tpp} = 5,10,15,20\text{-tetraphenylporphyrinate, tmpp} = 5,10,15,20\text{-tetra(4-methoxyphenyl)porphyrinate}$ ), 3787

**EHMO CALCULATIONS**

Synthesis, crystal structure and molecular orbital investigation of the first platinum complex of piroxicam, 111

Electrochemical and spectroelectrochemical studies on platinum complexes containing 2,2'-bipyridine, 329

Synthesis of the 17-electron cations  $[\text{FeL}(\text{L}')(\text{NO})]^+$  ( $\text{L}, \text{L}' = \text{PPh}_3, \text{OPPh}_3$ ), structure and bonding in four-co-ordinate metal dinitrosyls, and implications for the identity of paramagnetic iron dinitrosyl complex catalysts, 3491

Ruthenium tris(pyrazolyl)borate complexes. Formation and characterization of acetone, dimethylformamide and vinylidene complexes containing N,N-donor co-ligands, 4071

Synthesis, properties and characterization of the trinuclear clusters  $[\text{Co}_3(\mu\text{-SR})_6(\text{PET}_3)_3]\text{X}$  ( $\text{R} = \text{Me or Et, X} = \text{BPh}_4^-$  or  $\text{PF}_6^-$ ), 4337

Chemical origin of high activity in oxygenation of cyclohexane by  $\text{H}_2\text{O}_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

Tetraaza macrocycles containing pyridine and their copper(II) and nickel(II) complexes: X-ray, spectroscopic, molecular mechanics and molecular orbital studies, 4543

**ELECTROCARBOXYLATION**

Electrochemical carboxylation of arylmethyl chlorides catalysed by  $[\text{Co}(\text{salen})]\text{H}_2\text{salen} = N,N'$ -bis(salicylidene)ethane-1,2-diamine, 1613

**ELECTROCHEMICAL RECOGNITION**

Tuning of the electrochemical recognition of substrates as a function of the proton concentration in solution using pH-responsive redox-active receptor molecules, 343

**ELECTROCHEMICAL SYNTHESIS**

Electrochemical synthesis and crystal structure of silver(I) complexes with some heterocyclic thiones, 2047

**ELECTROCHEMISTRY**

Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Electrochemical and spectroelectrochemical studies on platinum complexes containing 2,2'-bipyridine, 329

Tuning of the electrochemical recognition of substrates as a function of the proton concentration in solution using pH-responsive redox-active receptor molecules, 343

Improved syntheses, structures, spectral and electrochemical properties of  $[Mn^{III}(\mu-O)(\mu-O_2CMe)_2L_2]^{2+}$  and  $[Mn^{IV}(\mu-O)_2L_2]^{2+}$  complexes. Two homologous series derived from eight N-substituted 1,4,7-triazacyclonananes, 353

Asymmetric functionalisation ofaza macrocycles. Syntheses, crystal structures and electrochemistry of  $[Ni(Bz[9]aneN_3)_2][PF_6]_2$  and  $[Pd(Bz[9]aneN_3)_2][PF_6]_2 \cdot 2MeCN$  ( $Bz[9]aneN_3 = 1$ -benzyl-1,4,7-triazacyclonane), 525

Mono- and di-nuclear ruthenium(II) complexes of the ambidentate ligand 3,3'-dihydroxy-2,2'-bipyridine: spectroscopic, electrochemical and mixed-valence properties, 879

Synthesis of the new binucleating compound pyrazin-2-yl 2-pyridyl sulfide for stepwise or direct approach to asymmetric binuclear ruthenium(II) complexes, 885

Oxidation behaviour of the unsaturated diruthenium species  $[Ru_2(\mu_{ab}-CO_2)(CO_2)(\mu-(PrO_2)PNET_2(POPr_2))]^{103+}$

Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(V) diphosphine complexes and related nitridorhenium(V) organometallics; crystal structure of  $[Re^V(N(C≡CBu')_2(PPh_3))_2]$ , 1125

Synthesis, magnetism, electrochemistry and reactivity of dinuclear vanadium(III) complexes of a macrocyclic tetraimine Schiff base, 1223

Metal complexes of a chiral quadridentate Schiff base, 1229

Synthesis, structures and redox properties of platinum metal phosphaphia complexes: crystal structures of  $cis-[RuCl_2(RSC_2H_4SR)] \cdot 0.75Et_2O$  and  $cis-[RhCl_2(RSC_2H_4RS)]PF_6 \cdot CH_2Cl_2$  ( $R = Ph_2PCH_2CH_2$ ), 1261

Synthesis, structure and properties of new iron-molybdenum and -tungsten fulvalene-bridged heterobimetallic complexes, 1323

Synthesis, characterization and redox properties of mixed phosphine nitroruthenium(II) complexes. Crystal structure of  $trans-[Ru(NO_2)(terpy)(PMe_3)(PPh_3)]ClO_4 \cdot H_2O$ , 1463

Isolation, structure and spectroscopic properties of  $[Re_2(C_5S_5)_2]^{2-}$  complexes and electrical conductivities of their oxidized species, 1539

Syntheses, structures and electrochemical properties of single and double helical inorganic complexes containing new polypyridine ligands, 1829

Paramagnetic tetrahedral dinitrosyliron complexes containing redox-active cyanomanganese ligands, 1959

Copper(I) and -(II) complexes with tertiary linear polyamines of the type  $Me_2NCH_2(CH_2NMe_2)_nCH_2NMe_2$  ( $n = 1-4$ ), 2055

Synthesis, structure, spectra and redox interconversions in copper(II) complexes of 5,6-diphenyl-3-(2-pyridyl)-1,2,4-triazine, 2061

Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067

Spectral and electrochemical recognition of halide anions by acyclic mononuclear ruthenium(II) bipyridyl receptor molecules, 2341

Dinuclear alkoxide-bridged ruthenium(II) complexes with Class III mixed-valence states: a structural and spectroelectrochemical study, 2527

Mode of formation of polymeric  $[(Ru(bipy)(CO)_2)_n]$  (bipy = 2,2'-bipyridine) films, 2581

Novel, selective and co-operative assembly of cyclodextrins around  $[1,8\text{-bis(pyridin-2-yl)}\cdot 3,6\text{-dithiaoctane}]$  copper(II), 2609

Deprotonation reactions of the aminocarbonyl complex  $trans-[ReCl(CN)_2(dppe)_2]BF_4^-$  ( $dppe = Ph_2PCH_2CH_2PPh_2$ ).

Synthesis and properties of the cyano-complexes  $trans-[Re(CN)L(dppe)_2]$  ( $L = NCR, N_3, CO$  or  $C=CHPh$ ) and crystal structure of  $trans-[Re(CN)(NCMe)(dppe)_2] \cdot PrOH$ , 2763

Synthesis and electrochemistry of 2,3,7,8,12,13,17,18-octachloro-5,10,15,20-tetrakis(3,5-dichloro-2,6-dimethoxyphenyl)porphyrin ( $H_2tdcdmpp$ ),  $[Co^{II}(tdcdmpp)]$  and  $[M(tdcdmpp)Cl]$  ( $M = Fe^{III}$  or  $Mn^{III}$ ), 2793

Highly branched ferrocene-functionalised polyazacycloalkanes as electroactive receptors for transition-metal ions, 2923

Synthesis, electrochemistry and photoconductivity of oligo- and poly-(1,1'-dihexylferrocenylenes), 2929

Electronic and steric effects in manganese Schiff-base complexes as models for the water oxidation complex in photosystem II. The isolation of manganese-(II) and -(III) complexes of 3- and 3,5-substituted *N,N*-bis(salicylidene)ethane-1,2-diamine ( $H_2salen$ ) ligands, 2935

Synthesis, structure, photophysics, time-resolved emission spectroscopy and electrochemistry of luminescent copper(I) acetylidyne complexes, 3283

Synthesis, crystal structure and redox properties of  $\mu$ -oxo-bis( $\mu$ -acetato)diruthenium(III) complexes having 2,2'-bipyridine and imidazole bases as terminal ligands, 3289

A  $Fe^{III}O_2N_2$  co-ordination sphere assembled via an enolate-imine-amide ligand. Effect of amide protonation on the redox behaviour and stereochemistry of the iron(III) centre, 3293

Synthesis, photophysics and electrochemistry of  $[Au(dppf)R_2]$  ( $dppf = Fe(\eta-C_6H_4PPh_2)_2$ ;  $R =$  alkyl, aryl or alkynyl). Crystal structure of  $[Au_2(dppf)(C_{10}H_9)_2](C_{10}H_9 =$  pyren-1-yl), 3411

*meso*-Substituted octamethylporphyrins: synthesis, spectroscopy, electrochemistry and electronic structure, 3429

Synthesis of the 17-electron cations  $[FeL(L')(NO_2)]^{1+}$  ( $L, L' = PPh_3, OPPh_3$ ): structure and bonding in four-co-ordinate metal dinitrosyls, and implications for the identity of paramagnetic iron dinitrosyl complex catalysts, 3491

Synthesis and characterization of nickel-group bis(dithiocroconate) complexes and dicyanomethylene-substituted analogues, 3507

Synthesis, characterisation and electrochemical analysis of a bis-(ferrocenyl) vinyl alkylo ether-substituted triosmium cluster, 3521

Role of bifunctional N/S bridging in the association of metals, syntheses and structures of heterobimetallics  $[(Ph_3P)_2CuL_2Li(thf)] \cdot thf$  and tetrmeric  $[(CuL(PPh_3))_4]$  ( $L = 1,3\text{-benzoxazoline-2-thionate}$ ,  $thf =$  tetrahydrofuran), 3793

Electrochemical deprotection of a substrate binding site in  $[Mo_2(cp)(\mu-SMe)_2(\mu-Cl)]$  ( $cp = \eta^3-C_6H_5$ ) via chloride-bridge opening. Kinetics of MeCN and Bu<sup>NC</sup> binding at this site, 3967

Intramolecular electron transfer in linear trinuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyano-manganese ligands, 3977

Synthesis, molecular structure and palladium(II) and platinum(II) complex chemistry of 3-(ferrocen-1-yl)-1-(pyridin-2-yl)pyrazole, 4055

Metallocene-nucleobase conjugates. Synthesis, structure and nucleic acid binding, 4115

Molecules bearing a redox-active spacer. Synthesis and co-ordination behaviour of 1,1'-bis(5-methyl-2,5-diazahexyl)ferrocene, 4121

Chloride and dihydrogenphosphate-selective anion recognition by new acyclic mono-, bi- and tri-cobaltocenium receptors, 4129

Synthesis, characterisation and electrochemistry of the novel ferrocenyldieneiditriosmium cluster  $[Os_3(CO)_9(\mu-\eta^4-Fe[C_6H_4(C_6SiMe_3)_2]_2)]$ , 4147

Macrocyclic dimeric vanadium(IV) and heterodinuclear vanadium(IV)-nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

Some new dipyridyl and diphenol bridging ligands containing oligothienyl spacers, and their dinuclear molybdenum complexes: electrochemical, spectroscopic and luminescence properties, 4257

N-Methylation of diamino-substituted macrocyclic complexes: intramolecular cyclisation, 4325

Solution studies of copper(II) complexes as models for the active site in galactose oxidase, 4331

Synthesis, properties and characterization of the trinuclear clusters  $[Co_3(\mu-SR)_6(PEt_3)_3]X$  ( $R =$  Me or Et,  $X = BPh_4^-$  or  $PF_6^-$ ), 4337

Syntheses and electrochemistry of bimetallic complexes containing cyclohexanediolate or cyclopentanediolate bridges, 4401

First-row transition-metal complexes of mixed 'pendant-arm' derivatives of 1,4,7-triazacyclonane containing phenolate and carboxylate functional groups, 4409

**ELECTRON DIFFRACTION**

Tetraborane(10),  $B_4H_{10}$ : structures in gaseous and crystalline phases, 4589

**ELECTRONIC**

Improved syntheses, structures, spectral and electrochemical properties of  $[Mn^{III}(\mu-O)(\mu-O_2CMe)_2L_2]^{2+}$  and  $[Mn^{IV}(\mu-O)_2L_2]^{2+}$  complexes. Two homologous series derived from eight N-substituted 1,4,7-triazacyclonananes, 353

Heteroleptic poly(pyrazolyl)borate derivatives of the lanthanides. Structural and electronic spectral studies of some salicylaldehyde complexes, 501

Copper(I) and -(II) complexes with tertiary linear polyamines of the type  $Me_2NCH_2(CH_2NMe_2)_nCH_2NMe_2$  ( $n = 1-4$ ), 2055

Spectral and electrochemical recognition of halide anions by acyclic mononuclear ruthenium(II) bipyridyl receptor molecules, 2341

On the electronic structures and spectra of  $NiCl_2$  and  $CuCl_2$ , 2601 Ultraviolet-circular dichroism spectra for structural analysis of copper(II) complexes with aliphatic and aromatic ligands in aqueous solution, 3269

Gas-phase, liquid and solid complexes in the  $POCl_3$ - $FeCl_3$  system, 3405

Nickel(II)  $N_2O_2$  Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437

**ELECTRONIC (contd)**

Synthesis and characterization of nickel-group bis(dithiocroconate) complexes and dicyanomethylene-substituted analogues, 3507  
 Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>2</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenabis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit·2I<sub>2</sub> and ebit·2I<sub>2</sub>, 3583

Structural and spectroscopic studies on 36-membered ring arrays formed by copper(II) halides with 1-(4-picolylo)pyrrolidin-2-one, 4245

The electronic structure of 'linear' nickel oxides, 4555

**ELECTRON TRANSFER**

Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Copper(I) and -II) complexes of a macrocycle derived from 2:2 condensation of pyridine-2,6-dicarbaldehyde and 4-azahexane-1,7-diamine; oxygenation of the copper(I) complex, 167

Kinetics and mechanism of the cobaloxime(II)-catalysed oxidation of 2-aminophenol by dioxygen. A phenoxazinone synthase model involving free-radical intermediates, 473

Characterization, redox properties and structures of the iron nitridocarbonyl clusters [Fe<sub>6</sub>N(CO)<sub>11</sub>·PPh<sub>3</sub>(C<sub>6</sub>H<sub>5</sub>FeC<sub>6</sub>H<sub>5</sub>)<sub>2</sub>]<sup>-</sup>, [Fe<sub>6</sub>N(CO)<sub>11</sub>]<sup>1-</sup> and [Fe<sub>6</sub>H(N(CO)<sub>11</sub>)<sub>2</sub>]<sup>2-</sup>, 747

Oxidation behaviour of the unsaturated diruthenium species [Ru<sub>2</sub>(μ<sub>3</sub>-CO)<sub>2</sub>(CO)<sub>2</sub>·μ-(PrO)<sub>2</sub>PNEt<sub>2</sub>(OPr)<sub>2</sub>]<sub>n</sub>, 1031

Kinetics and mechanism of the oxidation of L-ascorbic acid by *cis*-diaqua cobalt(III) ammine complexes, 1385

Kinetics of oxidation of ascorbate by tetrานuclear cobalt(III) complexes ('hexols') in aqueous solution, 1393

Synthesis, characterization and redox properties of mixed phosphine-nitroruthenium(II) complexes. Crystal structure of *trans*-[Ru(NO<sub>2</sub>)(terpy)(PMe<sub>3</sub>)(PPh<sub>3</sub>)][ClO<sub>4</sub>]<sup>-</sup>·H<sub>2</sub>O, 1463

Comparative study of oxidation by chromium(V) and chromium(VI), 1607

Photoinduced electron transfer between [Cu(dmphen)L]<sup>+</sup> [dmphen = 2,9-dimethyl-1,10-phenanthroline, L = PPh<sub>3</sub>(C<sub>6</sub>H<sub>4</sub>OMe-p)<sub>3-n</sub>] (*n* = 0–3) and methyl viologen, 1909

Kinetics and equilibria in the nitric acid–nitrous acid–sodium thiocyanate system, 1915

Paramagnetic tetrahedral dinitrosyliron complexes containing redox-active cyanomanganese ligands, 1959

Synthesis, structure, spectra and redox interconversions in copper(II) complexes of 5,6-diphenyl-3-(2-pyridyl)-1,2,4-triazine, 2061

Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067

Influence of mixed sulfur–nitrogen oxides on the redox kinetics of iron ions in aqueous solution, 2135

Kinetic studies on the redox reactions of *Clostridium pasteurianum* rubredoxin, 2219

Triazene-bridged dirhodium complexes containing redox-active cyanomanganese ligands, 2511

Synthesis, structure, spectra and redox chemistry of iron(III) complexes of tridentate pyridyl and benzimidazolyl ligands, 2519  
 Novel, selective and co-operative assembly of cyclodextrins around [1,8-bis(pyridin-2-yl)-3,6-dithiaoctaoctane]copper(II), 2609

Preparation and properties of the corner-shared double cube [Mo<sub>6</sub>Pb<sub>8</sub>(H<sub>2</sub>O)<sub>18</sub>]<sup>6+</sup> as a derivative of [Mo<sub>6</sub>S<sub>4</sub>(H<sub>2</sub>O)<sub>18</sub>]<sup>6+</sup>, 2623

Reaction kinetics and mechanism of formation of [H<sub>4</sub>Co<sub>2</sub>Mo<sub>10</sub>O<sub>38</sub>]<sup>6-</sup> by peroxomonosulfate oxidation of Co<sup>II</sup> in the presence of molybdate, 2629

Electron transfer from thiosulfate to nickel(IV) oxime imine complexes in aqueous solution, 2645

Outer-sphere redox reactions of [Co<sup>III</sup>(NH<sub>3</sub>)<sub>5</sub>(H<sub>2</sub>P<sub>2</sub>O<sub>7</sub>)<sub>2</sub>]<sup>(m-3)-</sup> complexes. A temperature- and pressure-dependence kinetic study on the influence of the phosphorus oxoanions, 2665

Fourier-transform infrared study of short-lived highly reduced dithiolene complexes by potential-modulation spectro-electrochemical techniques, 2945

A Fe<sup>III</sup>O<sub>4</sub>N<sub>2</sub> co-ordination sphere assembled via an enolate-imine-amide ligand. Effect of amide protonation on the redox behaviour and stereochemistry of the iron(III) centre, 2923

Iron catalysis of the reduction of oxime-bound nickel(IV) by hydroxylamine, 3417

*meso*-Substituted octabromoporphyrins: synthesis, spectroscopy, electrochemistry and electronic structure, 3429

Synthesis of the 17-electron cations [FeL(L')(NO)<sub>2</sub>]<sup>+</sup> (L, L' = PPh<sub>3</sub>, OPPh<sub>3</sub>): structure and bonding in four-co-ordinate metal dinitrosyls, and implications for the identity of paramagnetic iron dinitrosyl complex catalysts, 3491

Reduction of dinitrogen bound at an iron(0) centre, 3539

Rapid and mild synthesis of [Re<sub>2</sub>(CO)<sub>10</sub>] by reduction of [NH<sub>2</sub>][ReO<sub>4</sub>] at atmospheric CO pressure, 3611

Redox behaviour of 4Fe-4S ferredoxin model arenethiolate complexes involving specific NH ··· S hydrogen bonds assisted by a neighbouring phenyl group, 3859

Structural characterization of possible intermediates in vanadium-catalysed sulfide oxidation, 3865

Kinetics of oxidation of nitrogen(III) by an oxo-bridged dinuclear manganese(III,IV) complex in weakly acidic media, 3951

Electrochemical deprotection of a substrate binding site in [Mo<sub>2</sub>(cp)<sub>2</sub>(μ-SMe)<sub>2</sub>(μ-Cl)] (cp = η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>) via chloride-bridge opening. Kinetics of MeCN and Bu<sub>4</sub>NC binding at this site, 3967

Intramolecular electron transfer in linear trinuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyano-manganese ligands, 3977

Molecules bearing a redox-active spacer. Synthesis and co-ordination behaviour of 1,1'-bis(5-methyl-2,5-diazahexyl)ferrocene, 4121

Electron self-exchange and cross-reaction studies on wild-type *Clostridium pasteurianum* rubredoxin and its Val-8→Glu variant, 4287

Electron-transfer reactions in [Ru(edta)(pyz)]<sup>-</sup> (edta = ethylene-dinitrilotetraacetate, pyz = pyrazine), 4389

Kinetics and mechanism of reduction of (*trans*-cyclohexane-1,2-diyl)dinitrotetraacetato)manganese(IV) by HONH(SO<sub>3</sub>)<sup>-</sup> and HON(SO<sub>3</sub>)<sub>2</sub><sup>2-</sup>, 4393

Syntheses and electrochemistry of bimetallic complexes containing cyclohexanediolate or cyclopentanediolate bridges, 4401

(R)- and (S)-2-Diphenylphosphinoxy-2'-hydroxy-1,1'-binaphthalene: versatile chiral bidentate ligands, 4449

**ELECTROPOLYMERISATION**

Electrosynthesis and co-ordination chemistry of polymer films coated on electrode surfaces from pyrrole polypyridyls, 2503

Mode of formation of polymeric [Ru(bipy)(CO)<sub>2</sub>]<sub>n</sub> (bipy = 2,2'-bipyridine) films, 2581

**ELEMENTS**

Evolution of the modern periodic table, 3899

**EMPIRICAL POTENTIAL CALCULATIONS**

What can calculations employing empirical potentials teach us about bare transition-metal clusters?, 611

**ENCAPSULATION**

Structural characterization of spherical octadecavanadates encapsulating Cl<sup>-</sup> and H<sub>2</sub>O, 283

A route to the dispersion of ultrafine cobalt particles on zeolite Na-X through salt occlusion and reduction, 775

**ENZYME**

Kinetic studies of the reaction of hydrogen peroxide with manganese-reconstituted horseradish peroxidase, 1059

Synthesis, characterisation and superoxide dismutase activity of a manganese(II) complex, 2019

Dinuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227

Formation of axial phenolate–metal bonds in square-pyramidal complexes, 2233

Crystal structures and superoxide dismutase mimetic activity of [CuL<sub>2</sub>(Him)<sub>2</sub>]·MeOH and [CuL<sub>2</sub>(mim)<sub>2</sub>]·H<sub>2</sub>O [HL = 4-amino-N-(thiazol-2-yl)benzenesulfonamide, Him = imidazole, mim = N-methylimidazole], 2239

Models of the active sites of zinc-containing enzymes: the structure of acetato[hydrotris(3-*tert*-butyl-5-methylpyrazol-1-yl)borato]zinc(II), 4283

Solution studies of copper(II) complexes as models for the active site in galactose oxidase, 4331

Characterization and superoxide dismutase activity of copper(II) complexes of 6A,6X-difunctionalized β-cyclodextrins, 4351

**ENZYME MODEL**

Kinetics and mechanism of the cobaloxime(II)-catalysed oxidation of 2-aminophenol by dioxygen. A phenoxazinone synthase model involving free-radical intermediates, 473

Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087

Copper(II) complexes with cyclo(L-aspartyl-L-aspartyl) and cyclo(L-glutamyl-L-glutamyl) derivatives and their antioxidant properties, 3093

**EPOXIDATION**

Preparation and reactivities of chiral manganese(III) and copper(II) complexes of binaphthyl Schiff bases, 405

The crystal structures of [NMe<sub>4</sub>][{(Me<sub>2</sub>AsO<sub>2</sub>)<sub>2</sub>(MoO<sub>2</sub>O<sub>2</sub>)<sub>2</sub>}]<sub>n</sub>, [NMe<sub>4</sub>][{(Ph<sub>3</sub>PO<sub>2</sub>)<sub>2</sub>(MoO<sub>2</sub>O<sub>2</sub>)<sub>2</sub>}]<sub>n</sub>, [NBu<sub>4</sub>][{(Ph<sub>3</sub>PO<sub>2</sub>)<sub>2</sub>(WO<sub>2</sub>O<sub>2</sub>)<sub>2</sub>}]<sub>n</sub> and [NH<sub>4</sub>][{(Ph<sub>3</sub>PO<sub>2</sub>)<sub>2</sub>(MoO<sub>2</sub>O<sub>2</sub>)<sub>2</sub>(H<sub>2</sub>O)}]<sub>n</sub> and their use as catalytic oxidants, 2039

**EPOXIDE**

Reactions of cyano-iron and -ruthenium compounds with *gem*-dicyanoepoxides. A new pathway to vinyl isocyanide complexes of iron and ruthenium, 3231

**EQUILIBRIUM**

Electron spin resonance study of the frozen-solution equilibrium [Co{S<sub>2</sub>C<sub>2</sub>(CF<sub>3</sub>)<sub>2</sub>L}] + L ⇌ [Co{S<sub>2</sub>C<sub>2</sub>(CF<sub>3</sub>)<sub>2</sub>L}] [L = P(OR)<sub>3</sub> or P(OMe)<sub>3</sub>; R = alkyl], 3503

Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>2</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenabis(3-methyl-4-imidazoline-2-thione) (ebit), 3583

**EQUILIBRIUM** (contd)

- imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit- $\text{B}_2\text{I}_2$  and ebit- $\text{B}_2\text{I}_2$ , 3583
- Hydrolytic equilibria of lead(II) at 100°C in 3.6 mol kg<sup>-1</sup> LiClO<sub>4</sub>, 4597

**ESR**

- Crystal structure and spin-doublet electron spin resonance of a magnetically coupled di( $\mu$ -phenoxo)-copper(II)nickel(II) complex, 25
- An improved synthesis of SF<sub>6</sub>(CN) and its cycloaddition reaction with SNSAsF<sub>6</sub>. Crystal structure of F<sub>6</sub>SCNSNSAsF<sub>6</sub> and electron spin resonance spectrum of F<sub>6</sub>SCNSNS, 383
- Solid state and solution structures of two structurally related dicopper complexes with markedly different redox properties, 533
- The chemistry and the geometric and electronic structures of small naked metal clusters prepared using a rotating cryostat and studied by electron paramagnetic resonance, 653
- New silica-gel-bound polyazacycloalkanes and characterization of their copper(II) complexes using electron spin resonance spectroscopy, 1209
- Mössbauer and electron paramagnetic resonance studies on some new bis(ligated) porphyrinatoiron(III) complexes with aliphatic amines. Models for cytochromes b, 2361
- Synthesis, structure, magnetic, spectroscopic and electrochemical behaviour of chloro-iron(II) and -manganese(III) complexes of 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaphyrin, 2799
- Copper(II) complexes with cyclo(L-aspartyl-L-aspartyl) and cyclo(L-glutamyl-L-glutamyl) derivatives and their antioxidant properties, 3093
- A Fe<sup>III</sup>O<sub>4</sub>N<sub>2</sub> co-ordination sphere assembled via an enolate-imine-amide ligand. Effect of amide protonation on the redox behaviour and stereochemistry of the iron(III) centre, 3293
- Synthesis of the 17-electron cations [FeL(L')(NO)<sub>2</sub>]<sup>+</sup> (L, L' = PPh<sub>3</sub>, OPPh): structure and bonding in four-co-ordinate metal dinitrosyls, and implications for the identity of paramagnetic iron dinitrosyl complex catalysts, 3491
- Electron spin resonance study of the frozen-solution equilibrium [Co(S<sub>2</sub>C<sub>2</sub>(CF<sub>3</sub>)<sub>2</sub>)<sub>2</sub>L] + L ⇌ [Co(S<sub>2</sub>C<sub>2</sub>(CF<sub>3</sub>)<sub>2</sub>)<sub>2</sub>L<sub>2</sub>] [L = P(OR)<sub>3</sub> or PPh<sub>3</sub>(OMe); R = alkyl], 3503
- Structurally diverse copper(II) herbicide complexes: mono- and bi-nuclear neutral or cationic complexes, 3737
- Synthesis, structural characterisation, electron paramagnetic resonance and magnetic studies of homoleptic copper complexes of pyridonate ligands, 4077
- Structural and spectroscopic studies on 36-membered ring arrays formed by copper(II) halides with 1-(4-picolylo)pyrrolidin-2-one, 4245
- Synthesis, properties and characterization of the trinuclear clusters [Co<sub>3</sub>( $\mu$ -SR)<sub>6</sub>(PEt<sub>3</sub>)<sub>3</sub>]X (R = Me or Et, X = BPh<sub>4</sub><sup>-</sup> or PF<sub>6</sub><sup>-</sup>), 4337

**ESTER**

- Reactions of tin tetrachloride with diethyl glutarate. Crystal structures of [Sn<sub>2</sub>Cl<sub>4</sub>( $\mu$ -C<sub>4</sub>H<sub>6</sub>(CO<sub>2</sub>Et)<sub>2</sub>)<sub>2</sub>]-2CH<sub>2</sub>Cl<sub>2</sub> and cis-[SnCl(H<sub>2</sub>O)<sub>2</sub>]-C<sub>4</sub>H<sub>6</sub>(CO<sub>2</sub>Et)<sub>2</sub>, 439
- Preparations and crystal structures of Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)(C<sub>2</sub>S<sub>2</sub>) and [Q][Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)(C<sub>2</sub>S<sub>2</sub>)<sub>2</sub>] (Q = NEt<sub>4</sub> or 1,4-dimethyl-pyridinium, C<sub>2</sub>S<sub>2</sub> = 4,5-disulfanyl-1,3-dithiole-2-thionate), 541
- Carboxy ester hydrolysis catalysed by a dinuclear, hexaazacyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087

**ETHANOLAMINE**

- Structural characterization of possible intermediates in vanadium-catalysed sulfide oxidation, 3865

**ETHER**

- Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of [TiCl<sub>4</sub>L], [FeL<sub>2</sub>(O<sub>2</sub>SCF<sub>3</sub>)<sub>2</sub>] and [Mo(CO)<sub>2</sub>L<sub>2</sub>] [L = PhCH<sub>2</sub>P(CH<sub>2</sub>CH<sub>2</sub>OEt<sub>2</sub>)<sub>2</sub>], 1105
- Unsaturated ether chelate complexes of ruthenium(II), 2571
- Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of [TiCl<sub>4</sub>L], [FeL<sub>2</sub>(O<sub>2</sub>SCF<sub>3</sub>)<sub>2</sub>] and [Mo(CO)<sub>2</sub>L<sub>2</sub>] [L = PhCH<sub>2</sub>P(CH<sub>2</sub>CH<sub>2</sub>OEt<sub>2</sub>)<sub>2</sub>] (1995, 1105, 3163)

**ETHYLEDIOXY**

- New atropisomeric bidentate nitrogen-donor compounds as potential stereocontrollers in mild CO-styrene copolymerisation catalysed by palladium(II) salts, 1021

**EUROPIUM**

- Synthesis, crystal structure and luminescence properties of a europium(III) complex with a new planar aromatic tridentate N<sub>3</sub> ligand, 1767
- Mechanistic information on ligand-substitution reactions of europium(III) in aqueous solution from high-pressure stopped-flow experiments, 2127

**EXAFS**

- Dynamic disorder in crystalline [Fe<sub>2</sub>Os(CO)<sub>12</sub>] and direct evidence for rotation of the Fe<sub>2</sub>Os triangle in the solid state from variable-temperature X-ray diffraction and <sup>13</sup>C MAS NMR studies, 631

**Local structures of the amorphous chromium sulfide, Cr<sub>2</sub>S, and selenide, CrSe<sub>3</sub>, from X-ray absorption studies, 2245**

**Vanadium chloride and chloride oxide complexes in an ambient-temperature ionic liquid. The first use of bis(trichloromethyl) carbonate as a substitute for phosgene in an inorganic system, 2787**

**Applications of extended X-ray absorption fine structure spectroscopy to the study of polyoxometalates, 2951**

**Structural studies of polyoxometalate-anion-pillared layered double hydroxides, 2963**

**New synthetic route to WSF<sub>4</sub> and its solution-phase structure as determined by tungsten L(III)-edge extended X-ray absorption fine structure studies, 2975**

**Synthesis, platinum-195 nuclear magnetic resonance spectroscopic and extended X-ray absorption fine structure studies on platinum(II) and -(IV) thioether macrocyclic complexes, 2979**

**EXCHANGE**

- Alkali-metal complexes of a pendant-arm tetraaza macrocycle. Equilibrium, inter- and intra-molecular exchange processes, 1379
- On the nature of the interaction between potassium ions and bis(crown ether) derivatives as revealed by low-temperature carbon-13 nuclear magnetic resonance spectroscopy, 1455
- Reactions of [Ru(bipy)(CO)<sub>2</sub>Cl<sub>2</sub>] in aqueous HX and HX-HNO<sub>3</sub> solutions (X = F, Br or I; bipy = 2,2'-bipyridine), 1927
- Alcohol-alkoxyde exchange between Sn(OBu)<sub>4</sub> and HOBu<sup>+</sup> in coordinating and non-co-ordinating solvents, 2659
- Oxygen and vanadate exchange processes in linear vanadate oligomers, 3357

**EXTENDED HÜCKEL CALCULATIONS**

- Preparation, structural and spectroscopic characterisation of the salts M<sub>2</sub>X<sub>3</sub>AF<sub>6</sub> (A = As or Sb, M = S or Se, X = Cl or Br) containing the novel sulfur- and selenium-halogen cations (X<sub>2</sub>MMMX)<sup>+</sup>, 2553

**FAMOTIDINE**

- Crystal structure of a copper(II)-famotidine complex and solution studies of the Cu<sup>2+</sup>-famotidine-histidine ternary system, 1905

**FENSK-E-HALL MO CALCULATIONS**

- Bis(carboxylato) complexes of platinum(II). Structural and bonding analysis of [Pt(O<sub>2</sub>CR)<sub>2</sub>(L-L)] [L-L = 2PPh<sub>3</sub>, Ph<sub>2</sub>PCl<sub>2</sub>PPh<sub>3</sub> or Fe(C<sub>2</sub>H<sub>5</sub>PPh<sub>2</sub>)<sub>2</sub>; R = Me, CF<sub>3</sub>, Pr<sup>i</sup> or Ph], 2207

**FERREDOXIN**

- Redox behaviour of 4Fe-4S ferredoxin model arenethiolate complexes involving specific NH...S hydrogen bonds assisted by a neighbouring phenyl group, 3859

**FERROCENE**

- Phase transition in triiodide salts of binuclear ferrocene derivatives having long alkyl chains accompanied by a change in mixed-valence state, 139
- Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds [MM'RuH<sub>2</sub>( $\mu$ -dppf)(CO)<sub>12</sub>] [M = M' = Cu, Ag or Au; M = Cu, M' = Au; dppf = Fe( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>PPh<sub>2</sub>)<sub>2</sub>] and the crystal structures of [MM'RuH<sub>2</sub>( $\mu$ -dppf)(CO)<sub>12</sub>] (M = Cu or Au, M' = Au), 643
- Syntheses and structural characterisation of [Ir<sub>4</sub>(CO)<sub>12</sub>( $\eta^1$ -L)] and [Ir<sub>4</sub>(CO)<sub>10</sub>( $\eta^1$ -L')] [L = {Fe( $\eta^5$ -P<sub>2</sub>C<sub>5</sub>Bu<sub>4</sub>)<sub>2</sub>( $\eta^5$ -P<sub>2</sub>C<sub>5</sub>Bu<sub>4</sub>')}<sub>2</sub>] and [Fe( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>( $\eta^5$ -P<sub>2</sub>C<sub>5</sub>Bu<sub>4</sub>'))]<sub>2</sub>[Ir<sub>4</sub>(CO)<sub>12</sub>] and its facile conversion to [Ir<sub>4</sub>H(CO)<sub>10</sub>{Fe( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>( $\eta^5$ -P<sub>2</sub>C<sub>5</sub>(CMe<sub>2</sub>CH<sub>2</sub>)CBu<sub>4</sub>')}]<sub>2</sub>[Ir<sub>4</sub>(CO)<sub>12</sub>], via an unusual C-H activation, 739
- Bis(carboxylato) complexes of platinum(II). Structural and bonding analysis of [Pt(O<sub>2</sub>CR)<sub>2</sub>(L-L)] [L-L = 2PPh<sub>3</sub>, Ph<sub>2</sub>PCl<sub>2</sub>PPh<sub>3</sub> or Fe(C<sub>2</sub>H<sub>5</sub>PPh<sub>2</sub>)<sub>2</sub>; R = Me, CF<sub>3</sub>, Pr<sup>i</sup> or Ph], 2207
- Reactions of [RhRuH<sub>2</sub>( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>(CO)<sub>2</sub>BH<sub>3</sub>] with diphosphines and the synthesis and crystal structure of [RhRuH<sub>2</sub>( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>(CO)<sub>2</sub>(dppf-P,P)AuB] [dppf = 1,1'-bis(diphenylphosphino)ferrocene], 2917
- Highly developed ferrocene-functionalised polyazacycloalkanes as electroactive receptors for transition-metal ions, 2923
- Synthesis, electrochemistry and photoconductivity of oligo- and poly(1,1'-dihexylferrocenylenes), 2929
- Synthesis, photophysics and electrochemistry of [Au<sub>2</sub>(dppf)R<sub>2</sub>] [dppf = Fe( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>PPh<sub>2</sub>)<sub>2</sub>; R = alkyl, aryl or alkynyl]. Crystal structure of [Au<sub>2</sub>(dppf)(C<sub>16</sub>H<sub>20</sub>)<sub>2</sub>] (C<sub>16</sub>H<sub>20</sub> = pyren-1-yl), 3411
- Synthesis, characterisation and electrochemistry of the novel ferrocenyldienediyltriosmium cluster [Os<sub>3</sub>(C<sub>6</sub>O)<sub>9</sub>( $\mu$ <sub>3- $\eta^4$ -Fe(C<sub>6</sub>H<sub>4</sub>(C<sub>2</sub>SiMe<sub>3</sub>)<sub>2</sub>)<sub>2</sub>]<sub>2</sub>], 4147</sub>
- An expedient, mild, reductive method for the preparation of alkylferrocenes, 4617
- Group 9 metal 1,1'-bis(phosphino)ferrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633

**FERROCENYL**

- Syntheses, characterization and molecular structures of monomeric selenolate complexes of mercury with nitrogen-containing chelating ligands, 461
- Characterization, redox properties and structures of the iron

**FERROCENYL** (contd)

nitridocarbonyl clusters  $[\text{Fe}_4\text{N}(\text{CO})_{11}\{\text{PPh}_3\text{C}_5\text{H}_5\text{FeC}_5\text{H}_5\}_2]^-$ ,  $[\text{Fe}_4\text{N}(\text{CO})_{13}]^3-$  and  $[\text{Fe}_4\text{H}(\text{N})(\text{CO})_{13}]^{2-}$ , 747  
Synthesis, structure and properties of new iron–molybdenum and –tungsten fulvalene-bridged heterobimetallic complexes, 1323  
A bis(cyclopalladated) tetrานuclear derivative of methyl ferrocenyl ketone azine:  $[\{\text{Pd}[(\eta^5\text{-C}_5\text{H}_5)\text{Fe}(\eta^5\text{-C}_5\text{H}_5)\text{CMe}=\text{N}]\text{Cl}(\text{PPh}_3)\}_2]$ , 3195

Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated  $[\text{M}_4(\mu\text{-H})(\text{CO})_6(\mu\text{-NC}_5\text{H}_4)]$  ( $\text{M} = \text{Ru}$  or  $\text{Os}$ ) and ferrocene chromophores bridged by an aromatic unit, 3209  
Synthesis, characterisation and electrochemical analysis of a bis-(ferrocenyl) vinyl allyl ether-substituted triosmium cluster, 3521  
2,4-Diferrocenyl-1,3-dithiadiphosphetane 2,4-disulfide; structure and reactions with catechols and  $[\text{PtCl}_2(\text{PR}_3)_2]$  ( $\text{R} = \text{Et}$  or  $\text{Bu}$ ), 3653

Synthesis, molecular structure and palladium(II) and platinum(II) complex chemistry of 3-(ferrocen-1-yl)-1-(pyridin-2-yl)pyrazole, 4055  
Metallocene–nucleobase conjugates. Synthesis, structure and nucleic acid binding, 4115

Molecules bearing a redox-active spacer. Synthesis and co-ordination behaviour of 1,1'-bis(5-methyl-2,5-diazahexyl)ferrocene, 4121  
Versatile ligand behaviour of phenyl 2-pyridyl ketone benzoylhydrazone in palladium(II) complexes, 4239

Oxidative addition of diferroenyl dichalcogenides to  $[(\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)(\mu_3\text{-Cl}))_4]$ . Syntheses, crystal structures and some reactivities of  $[(\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)\text{Cl}(\mu\text{-ER}))_2]$  ( $\text{E} = \text{S}$ ,  $\text{Se}$  or  $\text{Te}$ ;  $\text{R} = \text{ferrocenyl}$ ), 4307

Heteropolymetallic aggregates from  $[\text{Pd}(\text{dpdf})(\mu\text{-S})_2]$ . Bonding and structural analysis of  $[\text{Ag}_2\text{Pd}_2\text{Cl}_2(\text{dpdf})(\mu\text{-S})_2] \cdot 4\text{CH}_2\text{Cl}_2$  [ $\text{dpdf} = \text{Fe}(\text{C}_5\text{H}_4\text{PPh}_3)_2$ ]—a flat  $[\text{Pd}_2\text{S}_2]$  core with two  $\text{AgCl}$  ‘tails’, 4315

**FLUORENYLIDENE**

Halogenogermenes: evidence for the formation of the chloro- or fluoro-germenes ( $\text{Me}_3\text{C}_5\text{X}\text{Ge}=\text{CR}_2$  ( $\text{CR}_2$  = fluorenylidene), 893

**FLUORIDE**

An improved synthesis of  $\text{SF}_3(\text{CN})$  and its cycloaddition reaction with  $\text{SNSAsF}_6$ . Crystal structure of  $\text{F}_5\text{SCNSNSAsF}_6$  and electron spin resonance spectrum of  $\text{F}_5\text{SCNSNS}^\bullet$ , 383

Cyclopentadienyl metal triflate ( $\text{OTeF}_6$ ) complexes, 509  
Synthesis and spectroscopic characterization of a series of substituted cyclopentadienyl Group 4 fluorides; crystal structure of the acetylacetonato complex  $[(\text{acac})_2(\eta^5\text{-C}_5\text{Me}_5)\text{Zr}(\mu\text{-F})\text{SnMe}_3\text{Cl}]$ , 1983

Structural chemistry of triorganotin fluorides. The crystal structure of tricyclohexyltin fluoride revisited, 2123  
Polymorphism, structures and phase transformation of  $\text{K}_3[\text{SO}_4]\text{F}$ , 2497

New synthetic route to  $\text{WSF}_4$  and its solution-phase structure as determined by tungsten L(III)-edge extended X-ray absorption fine structure studies, 2975

Trifluorotellurocetyl fluoride, its cyclic dimer and precursors: preparation, characterisation and reactivity, 4463

**FLUORINE-19**

Molecular structure of  $[\text{Ti}(\text{tpy})(\text{O}_2\text{CCF}_3)_2]$  and  $^{19}\text{F}$  dynamic nuclear magnetic resonance of it and  $[\text{Ti}(\text{tmpy})(\text{O}_2\text{CCF}_3)_2]$  [ $\text{tpy} = 5,10,15,20\text{-tetraphenylporphyrinate}$ ,  $\text{tmpy} = 5,10,15,20\text{-tetra-(4-methoxyphenyl)porphyrinate}$ ], 3787

**FLUXIONALITY**

Is the fluxional motion of bidentate 2,2':6,2'-terpyridine in *cis*- $[\text{M}(\text{C}_5\text{F}_5)_2(\text{terpy})]$  ( $\text{M} = \text{Pd}^{II}$  or  $\text{Pt}^{II}$ ) a dissociative process? A comment, 253

Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_2\text{H}_2(\mu\text{-dpdf})(\text{CO})_6]$  [ $\text{M} = \text{M}' = \text{Cu}$ ,  $\text{Ag}$  or  $\text{Au}$ ;  $\text{M} = \text{Cu}$ ,  $\text{M}' = \text{Au}$ ;  $\text{dpdf} = \text{Fe}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_3)_2$ ] and the crystal structures of  $[\text{MM}'\text{Ru}_2\text{H}_2(\mu\text{-dpdf})(\text{CO})_6]$  ( $\text{M} = \text{Cu}$  or  $\text{Au}$ ,  $\text{M}' = \text{Au}$ ), 643

Fluxionality in polynuclear copper(II) complexes containing aminoalcoholate ligands: syntheses, crystal structures, and  $^1\text{H}$  nuclear magnetic resonance studies, 1341

Syntheses and characterization of binuclear  $\text{Rh}_2$ ,  $\text{Ir}_2$  and  $\text{RhIr}$  complexes containing dimethyl phosphonate and pyrazolate bridging ligands, 2877

Synthesis and solution fluxionality of rhenium(I) carbonyl complexes of 2,4,6-tris(pyrazolyl)pyrimidines ( $\text{L}$ ),  $[\text{ReX}(\text{CO})_3\text{L}]$  ( $\text{X} = \text{Cl}$ ,  $\text{Br}$  or  $\text{I}$ ). Isolation and identification of the dinuclear complex  $[(\text{ReBr}(\text{CO})_3)_2\text{L}]$ , 3065

Synthesis and solution fluxionality of rhenium(I) carbonyl complexes of 2,4,6-tris(pyrazol-1-yl)-1,3,5-triazines ( $\text{L}$ ),  $[\text{ReX}(\text{CO})_3\text{L}]$  ( $\text{X} = \text{Cl}$ ,  $\text{Br}$  or  $\text{I}$ ). Characterization of  $[(\text{ReX}(\text{CO})_3)_2\text{L}]$  ( $\text{X} = \text{Cl}$  or  $\text{Br}$ ), 3371

Synthesis and nuclear magnetic resonance investigation of 1-

phenylpropane-1,2-dione 2-oxime complexes of trimethylplatinum(IV), 3543

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl–dithiole d<sup>1</sup> and d<sup>0</sup> niobium complexes, 4093

**FMO CALCULATIONS**

Preparation and characterization of 1,3,2-dithiazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with  $\text{SNS}^+$ , 1997

**FRAGMENTATION**

Spectroscopic titration of  $[\text{Re}_4(\mu\text{-H})(\text{CO})_{12}]$  with chloride ions. An electron-precise tetranuclear cluster as intermediate in the transformation of a tetrานuclear unsaturated cluster into trinuclear unsaturated anions, 1771

**FULLERENE**

Metal-containing carbon clusters, 567

**FULVALENE**

Synthesis, structure and properties of new iron–molybdenum and –tungsten fulvalene-bridged heterobimetallic complexes, 1323

**FULVENE**

Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes via sulfenamido rearrangement, 4063

**FURAN**

Synthesis and reactivity of  $\eta^3$ - $\gamma$ -lactonyl complexes of molybdenum; crystal structures of  $[\text{Mo}(\eta^3\text{-OC(O)CHCHCH})(\text{CO})_2(\eta^3\text{-C}_5\text{Me}_5)]$ ,  $[\text{Mo}(\eta^3\text{-PhCH}_2\text{NHCHCH}=\text{CH}(\text{CO}_2\text{H}))(\text{CO})_2(\eta^3\text{-C}_5\text{H}_5)]$  and  $[\text{Mo}(\eta^3\text{-OC(O)CHCHCHCO})(\text{NCMe})(\text{CO})(\eta^3\text{-C}_5\text{H}_5)]$ , 2299

**GADOLINIUM**

Synthesis and structure of a novel carboxylate-bridged heterometallic copper(II)–gadolinium(III) complex, 2181

**GALLIUM**

Synthesis and properties of some gallium amidine complexes  $[\text{GaX}_2\text{L}_{3-y}]$  [ $\text{X} = \text{Me}$ ,  $\text{Et}$  or  $\text{Cl}$ ;  $\text{L} = \text{RNCR'NR}$  ( $\text{R}$ ,  $\text{R}' = \text{H}$ , alkyl or aryl);  $y = 0$ –2]. Crystal structures of  $[\text{GaMe}_2(\text{PhNCPNPh})]$  and  $[\text{GaMe}(\text{PhNCPNPh})_2]$ , 431

Alane- and gallane-sulfur donor chemistry: synthesis of  $\text{AlH}_3\text{NMe}(\text{CH}_2\text{CH}_2\text{S})$ ,  $[\text{AlH}_2(\mu\text{-N}(\text{CH}_2\text{CH}_2\text{S})_2)]$  and  $\text{MH}(\text{SCH}_2\text{CH}_2\text{NEt}_2)_2$  ( $\text{M} = \text{Al}$  or  $\text{Ga}$ ), 829

Covalency in metal complexes of 1,4-diazabutadiene (dab). A density functional investigation of the electronic structures of  $[\text{M}(\text{dab})_2]$  ( $\text{M} = \text{Li}$ ,  $\text{Ga}$  or  $\text{Co}$ ) and  $[\text{Th}(\text{NH}_3)(\text{NH}_3)_2](\text{dab})$ , 1583

Neutral five-co-ordinate gallium(III) and indium(III) complexes derived from sulfur ligands, 2815

Reactions of gallium(III) chloride with  $\text{Li}[\text{E}(\text{SiMe}_3)_3]$  ( $\text{E} = \text{Si}$  or  $\text{Ge}$ ): crystal structure of  $(\text{R}_3\text{Ge})\text{ClGa}(\mu\text{-OEt})_2\text{GaCl}(\text{GeR}_3)$  ( $\text{R} = \text{SiMe}_3$ ), 4183

**GAS PHASE**

Gas-phase metal sulfide cluster anions, 709

Laser-desorption mass spectrometry of  $[\text{Ru}_4\text{C}(\text{CO})_{12}]$  and its derivatives: cluster aggregation in the gas phase, 771

Gas-phase reactions of cobalt(III)  $\beta$ -ketoenolates with Brønsted acid reagents, 2727

Gas-phase, liquid and solid complexes in the  $\text{POCl}_3\text{-FeCl}_3$  system, 3405

Tetraborane(10),  $\text{B}_4\text{H}_{10}$ : structures in gaseous and crystalline phases, 4589

**GERMANE**

Substitution reactions of  $[\text{Ge}_2\text{Co}_4\text{Fe}_2(\text{CO})_{21}]$  with methylgermanes, and its decarbonylation. Structures of  $[\text{Fe}_2(\mu_4\text{-GeMe}_2)_2(\text{CO})_6]$  and  $[\text{Fe}_3(\mu_3\text{-GeCo}(\text{CO})_4)_2(\text{CO})_6]$ , 3853

**GERMANIUM**

Tin–carbon bond formation by simple addition of cyclic dienes to a bis(amino)stannylene: a mechanistic study, 161

Halogenogermenes: evidence for the formation of the chloro- or fluoro-germenes ( $\text{Me}_3\text{C}_5\text{X}\text{Ge}=\text{CR}_2$  ( $\text{CR}_2$  = fluorenylidene)), 893

Two different co-ordination modes of hydrazide ligands in silicon and germanium compounds, 2095

Dilithium diamides  $[(\text{Li}(\text{OC}_2\text{H}_5)_2)_2\text{C}_{20}\text{H}_{12}(\text{NR})_2]$  ( $\text{R} = \text{SiMe}_3$  or  $\text{CH}_2\text{Bu}$ ) derived from  $\text{R}-\text{S}-\text{R}$ ,  $\text{R}-\text{S}-2,2'$ -diamino-1,1-binaphthyl derivatives, 3595

Substitution reactions of  $[\text{Ge}_2\text{Co}_4\text{Fe}_2(\text{CO})_{21}]$  with methylgermanes, and its decarbonylation. Structures of  $[\text{Fe}_2(\mu_4\text{-GeMe}_2)_2(\text{CO})_6]$  and  $[\text{Fe}_3(\mu_3\text{-GeCo}(\text{CO})_4)_2(\text{CO})_6]$ , 3853

Preparation of heterometallic single cubes  $[\text{W}_3\text{MS}_4(\text{H}_2\text{O})_{12}]^{+}$  ( $\text{M} = \text{In}$ ,  $\text{Ge}$  or  $\text{Sn}$ ) and the first corner-shared double cubes  $[\text{W}_3\text{SnS}_4(\text{H}_2\text{O})_{12}]^{+}$  and  $[\text{W}_3\text{Mo}_2\text{SnS}_4(\text{H}_2\text{O})_{12}]^{+}$  as derivatives of  $[\text{W}_3\text{S}_4(\text{H}_2\text{O})_9]^{4+}$ , 4089

**GERMIENE**

Halogenogermenes: evidence for the formation of the chloro- or fluoro-germenes ( $\text{Me}_3\text{C}_5\text{X}\text{Ge}=\text{CR}_2$  ( $\text{CR}_2$  = fluorenylidene)), 893

**GERMYL**

Reactions of gallium(III) chloride with  $\text{Li}[\text{E}(\text{SiMe}_3)_3]$  ( $\text{E} = \text{Si}$  or  $\text{Ge}$ ): crystal structure of  $(\text{R}_3\text{Ge})\text{ClGa}(\mu\text{-OEt})_2\text{GaCl}(\text{GeR}_3)$  ( $\text{R} = \text{SiMe}_3$ ), 4183

**GLUCOSE**

Comparative study of oxidation by chromium(V) and chromium(VI), 1607

**GOLD**

Chemical and biological reactions of diacetato[2-(dimethylaminomethyl)phenyl]gold(III),  $[\text{Au}(\text{O}_2\text{CMe})_2(\text{dmamp})]^+$ , 69  
 The novel structure of the  $[\text{Au}_{11}(\text{PMePh}_2)_6]^+$  cation: crystal structures of  $[\text{Au}_{11}(\text{PMePh}_2)_6][\text{C}_2\text{B}_9\text{H}_{12}]$ , 4thf and  $[\text{Au}_{11}(\text{PMePh}_2)_6][\text{C}_2\text{B}_9\text{H}_{12}]$  (thf = tetrahydrofuran), 479  
 Synthesis and characterization of the centred icosahedral cluster series  $[\text{Au}_9\text{M}^{18}\text{Cl}_4(\text{PMePh}_2)_8][\text{C}_2\text{B}_9\text{H}_{12}]$ , where  $\text{M}^{18}$  = Au, Ag or Cu, 491  
 Gold - a flexible friend in cluster chemistry, 561  
 Cluster core geometrical variation in heterometallic boride clusters containing RhRu<sub>4</sub> skeletons: crystal structures of  $[\text{RhRu}_4\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\mu\text{-C}_1\text{CO})(\text{C}_2\text{B}_9\text{H}_{12})\text{B}]$  and  $[\text{RhRu}_4\text{H}(\text{nbd})(\text{CO})_2\text{B}(\text{AuPPh}_3)]$  (nbd = norbornadiene), 603  
 Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_2]$  ( $\text{M}' = \text{M}' = \text{Cu}, \text{Ag}$  or  $\text{Au}; \text{M} = \text{Cu}, \text{M}' = \text{Au}; \text{dppf} = \text{Fe}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_2)_2$ ) and the crystal structures of  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_2]$  ( $\text{M} = \text{Cu}$  or  $\text{Au}, \text{M}' = \text{Au}$ ), 643  
 The chemistry and the geometric and electronic structures of small naked metal clusters prepared using a rotating cryostat and studied by electron paramagnetic resonance, 653  
 Deposition and growth of noble metal clusters on graphite, 665  
 Preparation, characterisation and properties of Groups VIII and IB metal nanoparticles, 673  
 Synthesis and characterisation of mono- and di-nuclear mixed phosphathia complexes of gold(I): crystal structures of  $[\text{Au}(\text{RSC}_2\text{H}_5\text{SR})]\text{PF}_6^-$ ,  $[\text{Au}(\text{RSC}_2\text{H}_5\text{SR})_2]\text{Cl}_2$ , 1267  
 Angle-resolved X-ray photoelectron spectroscopic experiments on the full series of molecular  $[\text{Au}_{55}(\text{PR}_3)_2\text{Cl}_6]$  clusters, 1721  
 Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(I) complex, 1769  
 Reactions of  $[\text{RhRu}_3\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})_3\text{BH}_2]$  with dianionic phosphines and the synthesis and crystal structure of  $[\text{RhRu}_3\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})(\mu\text{-dppf}-P,\text{P})\text{AuB}]$  [dppf = 1,1'-bis(diphenylphosphino)ferrocene], 2917  
 Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1 : 1 complexes of  $\text{PPH}_3$  with gold(I) halides; crystal structure of  $[\text{AuBr}(\text{PMe}_3)]$ , 3121  
 Dimetallic gold(I) and platinum(II) complexes containing a trioxoosmium(VIII) moiety. Crystal structures of  $[\text{Au}(\text{PPh}_3)(\text{NO}_3\text{O}_2)]$  and  $cis-[\text{Pt}(\text{PMe}_3)_2(\text{NO}_3\text{O}_2)_2]$ , 3153  
 Luminous complexes containing a gold(I) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155  
 Synthesis, characterisation and substitution reactions of gold(III) C,N-chelates, 3185  
 Synthesis, photophysics and electrochemistry of  $[\text{Au}_2(\text{dppf})\text{R}_2]$  [ $\text{dppf} = \text{Fe}(\eta^5\text{-C}_5\text{H}_4\text{PPH}_2)_2$ ; R = alkyl, aryl or alkynyl]. Crystal structure of  $[\text{Au}_2(\text{dppf})(\text{C}_6\text{H}_9)_2]$  ( $\text{C}_6\text{H}_9$  = pyren-1-yl), 3411  
 Syntheses, structures and chemistry of the high-nucularity ruthenium hydrido cluster anions  $[\text{Ru}_{10}\text{H}_2(\text{CO})_{25}]^{2-}$  and  $[\text{Ru}_{11}\text{H}(\text{CO})_{27}]^{3-}$ , 3515  
 Synthesis of heteropolyanuclear complexes with 1,1,1-tris(diphenylphosphinomethyl)ethane. Crystal structure of  $[(\text{OC})_6\text{Mo}(\text{Ph}_2\text{PCH}_2)_3\text{CMe}(\text{CH}_2\text{PPh}_2)_3]\text{AuCl}$ , 3603  
 Photophysical properties and crystal structures of luminescent phenylethylnylgold(I) complexes of alkyl and aryl isocyanides, 3699  
 Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1 : 1 complexes of  $\text{PPH}_3$  with gold(I) halides; crystal structure of  $[\text{AuBr}(\text{PMe}_3)]$  (1996, 3121), 3897  
 Intramolecular electron transfer in linear trinuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyano-manganese ligands, 3977  
 Synthesis and photophysics of dinuclear gold(I) thiolates of bis(diphenylphosphino)-alkyl- and -aryl-amines. Crystal structure of  $[\text{Au}_2(\text{Ph}_2\text{PN}(\text{C}_6\text{H}_5)\text{PPH}_2)(\text{SC}_6\text{H}_4\text{P}-p\text{V})_2]$ , 4019  
 Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphathia ligands and their chalcogenide derivatives, 4099  
 Synthesis and characterization of gold(III) adducts and cyclometallated derivatives with 6-benzyl- and 6-alkyl-2,2'-bipyridines, 4217  
 Synthesis, photophysics and photochemistry of alkynylgold(I) phosphine complexes, 4227  
 Mixed co-ordination numbers and geometries of gold(I) in a dinuclear complex of thioglycerol, 4511

**GRAPHITE**

Metal-containing carbon clusters, 567  
 Deposition and growth of noble metal clusters on graphite, 665

**GRIGNARD REAGENT**

Reaction of the  $\eta^4(4e^-)$ -donor alkyne complexes  $[\text{Mo}(\eta^4(4e^-)\text{R}^1\text{C}_2\text{R}^2)\{\text{P}(\text{OMe})_3\}_2(\eta^5\text{-C}_5\text{H}_5)]$  ( $\text{R}^1 = \text{R}^2 = \text{Ph}$  or  $\text{Me}$ ;  $\text{R}^1 = \text{Me}$ ,  $\text{R}^2 = \text{Ph}$ ) with the Grignard reagents  $\text{MgR}^3(\text{X})$  ( $\text{R}^3 = \text{Me}$ ,  $\text{Et}$ ,  $\text{CH}_2\text{Ph}$ ,  $\text{CH}_2\text{CH}=\text{CH}_2$  or  $\text{CH}=\text{CH}_2$ ) and  $\text{CH}_2(\text{Mgl})_2$ , 3387

**GUANIDINE**

Discrete dinuclear and polymeric copper(I) cations bridged by 4,4'-bipyridine, trans-1,2-bis(4-pyridyl)ethene or bis(4-pyridyl)disulfide, 1947  
 Oxidation of the pyrazine(pyz)-bridged polymeric copper(I) cation  $[\text{Cu}(\text{cnge})(\text{MeCN})(\text{pyz})]^+$  by  $\text{NOBF}_4$  and formation of the corresponding copper(II) cation  $[\text{Cu}(\text{MeCN})_4(\text{pyz})]^{2+}$  ( $\text{cnge} = 2\text{-cyanoguanidine}$ ), 2323  
 Guanidine anions as chelating ligands: syntheses and crystal structures of  $[\text{Rh}(\eta^5\text{-C}_5\text{Me}_5)(\eta^4\text{-}(\text{NPh})_2\text{CNHPh})\text{Cl}]$  and  $[\text{Ru}(\eta^5\text{-C}_5\text{Me}_5\text{Pr}^1\text{-p})(\eta^2\text{-}(\text{NPh})_2\text{CNHPh})\text{Cl}]$ , 2839

**HAFNIUM**

Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255

New mono- and bi-nuclear *ansa*-metallocenes of zirconium and hafnium as catalysts for the polymerisation of ethene and propene, 921

Formation of ring-expanded products from certain combinations of tetraphenyldisiloxanediolates  $[(\text{Ph}_3\text{SiOM})_2\text{O}]$  ( $\text{M}' = \text{Li}$  or  $\text{Na}$ ) and Group 4 metal chlorides  $\text{MCl}_4$ , 1449

Homoleptic hydroxylamides of titanium, zirconium and hafnium, 2089

Derivatives of Group 4 metal amide chlorides and fluorides: synthesis, structure and characterization of novel dimethyl and fluoro-chloro complexes, 4143

**HALF-SANDWICH COMPLEX**

Synthesis of new half-sandwich ruthenium complexes containing 1,2-bis(diisopropylphosphino)ethane (dippe); crystal structures of  $[\text{Ru}(\text{C}_5\text{Me}_5)\text{Cl}(\text{dippe})]$  and  $[\text{Ru}(\text{C}_5\text{Me}_5)(\text{O}_2)(\text{dippe})][\text{BPh}_4^-]$ , 377

Synthesis and structures of half-sandwich palladium(II) complexes of 1,4,7-trithiacyclononane ( $[\text{9janeS}_3]$ ) incorporating halide, phosphine and heterocyclic ligands, 1885

Synthesis of alkynyl, cyclic carbene and vinylidene osmium(II) complexes: first indenyl half-sandwich osmium(II) complexes, 2547

**HALIDE**

$(\text{Hg}_2\text{P}_2)\text{HgBr}_4$ : A phosphorus analogue of the Millon's base salts, 147

Low-temperature reactions of dihalogenosilylenes,  $\text{SiX}_2$ , with  $\text{I}_2$  or  $\text{ICl}$  in toluene yielding dihalogeno-nido(methylphenyl)silanes, 227

Reactions of tin tetrachloride with diethyl glutarate. Crystal structures of  $[\text{SnCl}_4\{\mu\text{-C}_2\text{H}_6(\text{CO}_2\text{Et})_2\}_2\text{-2CH}_2\text{Cl}_2$  and  $cis-[\text{SnCl}_4(\text{H}_2\text{O})_2\text{-C}_2\text{H}_6(\text{CO}_2\text{Et})_2]$ , 439

Halogenogermanes: evidence for the formation of the chloro- or fluoro-germanes ( $\text{Me}_2\text{S}_2\text{X}(\text{X})\text{Ge}=\text{CR}_2$  ( $\text{CR}_2$  = fluorenylidene), 893

Angle-resolved X-ray photoelectron spectroscopic experiments on the full series of molecular  $[\text{Au}_{55}(\text{PR}_3)_2\text{Cl}_6]$  clusters, 1721

Spectroscopic titration of  $[\text{Re}(\mu_3\text{I})_4(\text{CO})_4]$  with chloride ions. An electron-precise tetrานuclear cluster as intermediate in the transformation of a tetrานuclear unsaturated cluster into trimuclear anions, 1771

Reactions of  $[\text{Ru}(\text{bipy})(\text{CO})\text{Cl}_2]$  in aqueous HX and  $\text{HX}-\text{HNO}_3$  solutions ( $\text{X} = \text{F}$ ,  $\text{Br}$  or  $\text{I}$ ; bipy = 2,2'-bipyridine), 1927

Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067

Reactions of (diethyldithiocarbamato)halogenogenotitanium(II); crystal structures of  $\text{R}[\text{Ti}(\text{S}_2\text{CNEt}_2)_2\text{X}_2]$  ( $\text{R} = \text{NET}_4^+$ ,  $\text{X} = \text{I}$ ;  $\text{R} = \text{H}(\text{phen})_2$  ( $\text{phen} = 1,10\text{-phenanthroline}$ ),  $\text{X} = \text{I}$  or  $\text{Br}$ ), 2253

Spectroscopic and structural studies on 1 : 1 adducts of silver(I) salts with tricyclohexylphosphine, 2459

Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on  $\text{M}_2(\text{OPr})_6^-$  ( $\text{M} = \text{Sn}$ ,  $\text{Zr}$  or  $\text{Ti}$ ) anions: crystal and molecular structures of  $[\text{CdI}(\text{Sn}_2(\text{OPr})_6)]$  and  $[\text{SnI}(\text{Zr}_2(\text{OPr})_6)]$ , 2485

On the electronic structures and spectra of  $\text{NiCl}_2$  and  $\text{CuCl}_2$ , 2601

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1 : 1 complexes of  $\text{PPH}_3$  with gold(I) halides; crystal structure of  $[\text{AuBr}(\text{PMe}_3)]$ , 3121

Reaction of  $\text{R}_3\text{AsI}_3$  ( $\text{R} = \text{Me}$  or  $\text{Et}$ ) with zinc metal powder to produce  $\text{ZnI}_2(\text{AsMe}_3)_2$  and  $[\text{ZnI}_2(\text{AsEt}_3)]_2$ , the first tertiary arsine complexes of zinc(II), 3309

Synthesis and solution fluxionality of rhodium(I) carbonyl complexes of 2,4,6-tris(pyrazol-1-yl)-1,3,5-triazines ( $\text{L}$ ),  $[\text{ReX}(\text{CO})_2\text{L}]$  ( $\text{X} = \text{Cl}$ ,  $\text{Br}$  or  $\text{I}$ ). Characterization of  $[\text{ReX}(\text{CO})_2\text{L}]$  ( $\text{X} = \text{Cl}$  or  $\text{Br}$ ), 3371

Gas-phase, liquid and solid complexes in the  $\text{POCl}_3-\text{FeCl}_3$  system, 3405

Polynuclear aggregation of cobalt and manganese dichlorides.

Synthesis, properties and structures of monomeric  $[\text{CoCl}_2(\text{tmien})]$ , ionic  $[\text{Co}_3(\mu_3\text{-Cl})(\mu\text{-Cl})_2(\text{tmien})_3][\text{BPPh}_4^-]$ , polymeric  $\text{MnCl}_2\text{-tmien}$  and tetrานuclear  $[\text{Mn}_4(\mu\text{-Cl})_2\text{Cl}_2(\text{tmien})_4]$  ( $\text{tmien} = \text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2$ ), 3469

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1 : 1 complexes of  $\text{PPH}_3$  with

**HALIDE (contd)**  
gold(i) halides; crystal structure of  $[\text{AuBr}(\text{PMc}_3)]$  (1996, 3121), 3897

Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes  $\text{MCl}_3\text{L}$  ( $\text{M} = \text{As, Sb or Bi}; \text{L} = 1,4,7$ -trimethyl-1,4,7-triazacyclonane). Formation and crystal structures of  $[\text{AsCl}_3\text{L}]$ ,  $[\text{As}_2\text{OCl}_3]$ ,  $[\text{H}_3\text{L}]_2$ ,  $[\text{Sb}_2\text{OCl}_6]\text{Cl}_2$ ,  $[\text{HL}]_2$  and  $[\text{H}_3\text{L}]_2$ ,  $[\text{Sb}_2\text{Cl}_6]\text{Cl}$ -MeCN-H<sub>2</sub>O, 4045

Derivatives of Group 4 metal amide chlorides and fluorides: synthesis, structure and characterization of novel dimethyl and fluoro-chloro complexes, 4143

Synthesis, solution and magic angle spinning tin-119 nuclear magnetic resonance studies and crystal structures of dithioether complexes of tin(IV) halides, 4471

Density-functional study of the ground-and excited-spin states of  $[\text{M}_2\text{Cl}_4]^{2-}$  ( $\text{M} = \text{Mo or W}$ ) face-shared dimers: consequences for structural variation in  $\text{A}_3\text{M}_2\text{Cl}_6$  complexes, 4485

**HERBICIDE**  
Structurally diverse copper(II) herbicide complexes: mono- and bi-nuclear neutral or cationic complexes, 3737

**HETEROPOLYANION**  
Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametalate derivatives, 681

Structural characterization of the brown six-electron-reduced form of dodecatungstate,  $K_5[\text{BW}_{12}\text{O}_{37}(\text{H}_2\text{O})_3] \cdot 13\text{H}_2\text{O}$ , 1619

The crystal structures of  $[\text{NMe}_4]^+[(\text{Me}_2\text{AsO}_4)_2](\text{MoO}_4)_2$ ,  $[\text{NMe}_4]^+[(\text{Ph}_2\text{PO}_2)^-](\text{MoO}_4)_2$ ,  $[\text{NBu}_4]^+[(\text{Ph}_2\text{PO}_2)^-](\text{WO}_4)_2$  and  $[\text{NH}_4]^+[(\text{Ph}_2\text{PO}_2)^-](\text{MoO}_4)_2(\text{H}_2\text{O})$ ] and their use as catalytic oxidants, 2039

Crystal structure of bis(tetra-*n*-butylammonium) dodecamolybdate(VI)2-,  $[\text{NBu}_4]^2_2[\text{SMo}_{12}\text{O}_{40}]$ , 2083

Crystal structures of  $[\text{NET}_3\text{H}]_2[\text{XCo}^{\text{II}}\text{W}_{11}\text{O}_{39}] \cdot 3\text{H}_2\text{O}$  ( $\text{X} = \text{P or As}$ ), 2537

Reaction kinetics and mechanism of formation of  $[\text{H}_3\text{Co}_2\text{Mo}_{10}\text{O}_{38}]^{2-}$  by peroxomonosulfate oxidation of Co<sup>II</sup> in the presence of molybdate, 2629

Aqueous tungstovanadate equilibria, 2705

Applications of extended X-ray absorption fine structure spectroscopy to the study of polyoxometalates, 2951

Structural studies of polyoxometalate-anion-pillared layered double hydroxides, 2963

**HEXADECYLOXY**  
Novel triosmium cluster complexes with rod-like molecular geometry. Syntheses and crystal structures of  $[\text{Os}_3(\mu-\text{H})_2(\text{CO})_6(\mu_3\text{-CNC}_2\text{H}_5\text{OC}_2\text{H}_{13})]$  and  $[\text{Os}_3(\mu-\text{H})_2(\text{CO})_6(\mu_1\text{-NC}_2\text{H}_5\text{CH}=\text{NC}_2\text{H}_4\text{OC}_2\text{H}_{13})]$ , 2293

**HIGH TEMPERATURE**  
Hydrolytic equilibria of lead(II) at 100°C in 3.6 mol kg<sup>-1</sup> LiClO<sub>4</sub>, 4597

**HORSERADISH PEROXIDASE**  
Kinetic studies of the reaction of hydrogen peroxide with manganese-reconstituted horseradish peroxidase, 1059

**HYDRATION**  
Extent of hydration of octadentate lanthanide complexes incorporating phosphinate donors: solution relaxometry and luminescence studies, 17

Nitrile hydration catalysed by palladium(II) complexes, 3677

**HYDRAZIDE**  
Two different co-ordination modes of hydrazide ligands in silicon and germanium compounds, 2095

Reactions of substituted hydrazines with vanadium(III) compounds: crystal structures of  $[\text{NH}_2\text{Me}_2]_2[(\text{VCl}_3)_2(\mu\text{-NNMe}_2)_2]$ ,  $[\text{V}(\text{OC}_6\text{H}_5\text{Pr}_2)_2\text{H}_2](\text{NH}_2\text{NMe}_2)_2$  and  $[\text{V}(\text{OC}_6\text{H}_5\text{Pr}_2)_2\text{H}_2](\text{NH}_2\text{NMePh}_2)_2$ , 2755

**HYDRAZINE**  
Reactions of substituted hydrazines with vanadium(III) compounds: crystal structures of  $[\text{NH}_2\text{Me}_2]_2[(\text{VCl}_3)_2(\mu\text{-NNMe}_2)_2]$ ,  $[\text{V}(\text{OC}_6\text{H}_5\text{Pr}_2)_2\text{H}_2](\text{NH}_2\text{NMe}_2)_2$  and  $[\text{V}(\text{OC}_6\text{H}_5\text{Pr}_2)_2\text{H}_2](\text{NH}_2\text{NMePh}_2)_2$ , 2755

**HYDRAZONE**  
 $\text{A Fe}^{III}\text{O}_4\text{N}_2$  co-ordination sphere assembled via an enolate-imine-amide ligand. Effect of amide protonation on the redox behaviour and stereochemistry of the iron(III) centre, 3293

**HYDRIDE**  
Nuclear magnetic resonance and mass spectra of organomercury hydrides and deuterides, 153

Formation of *N*-imidoylimidatoruthenium(II) complexes via ruthenium-promoted hydration of nitriles, 291

Removing a second mercury atom from  $[\text{Os}_{10}\text{HgC}_2(\text{CO})_{42}]^{2-}$ : synthesis of  $[\text{Os}_{10}\text{HgC}_2(\text{CO})_{42}]^{4-}$  and crystal structure of  $[\text{PPh}_3]^+[\text{Os}_{10}\text{HgC}_2(\text{CO})_{42}]$ , 597

Cluster core geometrical variation in heterometallate boride clusters containing RhRu<sub>x</sub> skeletons: crystal structures of  $[\text{RhRu}_2\text{H}_2(\eta^5\text{-C}_5\text{Me}_5)(\mu\text{-Cl})(\text{CO})_{12}\text{B}]$  and  $[\text{RhRu}_2\text{H}(\text{nbd})(\text{CO})_{12}\text{B}(\text{AuPPh}_3)]$  (nbd = norbornadiene), 603

Multinuclear solid-state nuclear magnetic resonance studies on transition-metal clusters containing hydrides, 625

Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_{12}]$  ( $\text{M} = \text{M}' = \text{Cu, Ag or Au}; \text{M} = \text{Cu, M}' = \text{Au}; \text{dppf} = \text{Fe}(\eta^5\text{-C}_5\text{H}_5\text{PPh}_2)_2$ ) and the crystal structures of  $[\text{MM}'\text{Ru}_4\text{H}_2(\mu\text{-dppf})(\text{CO})_{12}]$  ( $\text{M} = \text{Cu or Au, M}' = \text{Au}$ ), 643

Syntheses and structural characterisation of  $[\text{Ir}_4(\text{CO})_{11}(\eta^1\text{-L})]$  and  $[\text{Ir}_4(\text{CO})_{10}(\eta^1\text{-L})_2]$  ( $\text{L} = [\text{Fe}(\eta^5\text{-P}_2\text{C}_2\text{Bu}^+)_2](\eta^5\text{-P}_2\text{C}_2\text{Bu}^+)_2$ ) and  $[\text{Ir}_4(\text{CO})_{11}(\mu\text{-η}^1\text{-η}^1\text{-Fe}(\eta^5\text{-C}_5\text{H}_5\text{C}_2\text{Bu}^+)_2)]$ ,  $[\text{Ir}_4(\text{CO})_{11}(\mu\text{-η}^1\text{-η}^1\text{-Fe}(\eta^5\text{-C}_5\text{H}_5\text{C}_2\text{Bu}^+)_2)]$  and its facile conversion to  $[\text{Ir}_4(\text{H}(\text{CO})_{10})_2[\text{Fe}(\eta^5\text{-C}_5\text{H}_5\text{C}_2\text{Bu}^+)_2]]$ , via an unusual C-H activation, 739

Characterization, redox properties and structures of the iron nitridocarbonyl clusters  $[\text{Fe}_4\text{N}(\text{CO})_{11}(\text{PPh}_3\text{C}_5\text{H}_5\text{FeC}_5\text{H}_5)_2]^{2-}$ ,  $[\text{Fe}_4\text{N}(\text{CO})_{12}]^{2-}$  and  $[\text{Fe}_4\text{H}(\text{N})(\text{CO})_{12}]^{2-}$ , 747

Systematic synthesis of substituted hexanuclear phosphido- and phosphinidene-bridged osmium clusters, 755

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni, 1093

Synthesis and characterisation of a novel nickel trihydride. Crystal structure of  $[[\text{Ni}(\text{dippe})_2\text{H}]_2[\text{BPh}_4]]$  (dippe =  $\text{Pr}_2\text{PCH}_2\text{CH}_2\text{PPr}_2$ ), 1305

Synthesis and structure of  $[\text{Ru}_3(\text{CO})_9(\mu\text{-H})(\mu_3\text{-η}^2\text{-PhCH}_2\text{CH}_2\text{C=NPPh}_2)]$ , a product of an 'intramolecular' hydrogen-transfer reaction, 1429

Synthesis and reactivity of hydrogen-rich uranium-rhenium compounds; an unsuspected detrimental effect of alkali-metal halide on chemical metathesis, 1487

Some transition-metal complexes derived from silylated 1,3-diynes, 1551

Systematic synthesis of hexanuclear phosphido-bridged osmium clusters; crystal and molecular structure of  $[\text{Os}_6(\mu\text{-H})(\text{CO})_{22}(\mu\text{-Ph}_2\text{H})]$ , 1567

Synthesis of 1,3-diaryltriazenido triruthenium and triosmium clusters: crystal structures of  $[\text{Ru}_3(\mu\text{-H})(\text{CO})_{10}(\mu_3\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  and  $[\text{Os}_3(\text{CO})_{10}(\mu^2\text{-C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$ , 1573

Triosmium and triruthenium clusters containing the 4-methyl-thiazolidine ligand: crystal structures of  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}(\mu_2\text{-3-η}^2\text{-C=NCMe=CHS})]$ ,  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}(\mu_2\text{-3-η}^2\text{-C=NCMe=CHS})(\text{PPPh}_3)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}(\mu_2\text{-3-η}^2\text{-C=NCMe=CHS})(\text{PPPh}_3)]$ , 1731

Spectroscopic titration of  $[\text{Re}_4(\mu\text{-H})_4(\text{CO})_{12}]$  with chloride ions. An electron-precise tetrานuclear cluster as intermediate in the transformation of a tetrานuclear unsaturated cluster into trinuclear unsaturated anions, 1771

Covalently linked anthracene-containing supramolecular complexes of triosmium carbonyl clusters: synthesis, crystal structures and solvatochromic behaviour, 1853

Isolation and structural characterisation of products from the reaction of  $[\text{Os}_6(\mu\text{-H})(\text{CO})_{10}(\text{MeCN})_2]$  with cyclohexa-1,3-diene, 2165

Synthesis and characterization of triosmium clusters containing a nitrite ligand; crystal and molecular structures of  $[\text{N}(\text{PPh}_3)_2][\text{Os}_3(\text{CO})_{10}(\mu\text{-η}^2\text{-NO}_2)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-η}^2\text{-NO}_2)]$ , 2177

Novel triosmium cluster complexes with rod-like molecular geometry. Syntheses and crystal structures of  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_6(\mu_3\text{-CNC}_2\text{H}_5\text{OC}_2\text{H}_{13})]$  and  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_6(\mu_1\text{-NC}_2\text{H}_5\text{CH}=\text{NC}_2\text{H}_4\text{OC}_2\text{H}_{13})]$ , 2293

Synthesis and characterization of cationic dinuclear complexes of platinum with bridging hydrides; crystal structures of  $[\text{Pt}_2(\mu\text{-H})_2(\text{Bu}^1\text{P}(\text{CH}_3)\text{PBu}^1_2)]$ ,  $[\text{BF}_4]_2$  and  $[\text{Pt}_2(\mu\text{-H})_2(\text{C}_6\text{H}_{11})_2\text{P}(\text{CH}_3)_2]$ , 2315

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni (1996, 1093), 2585

Structural and two-dimensional phosphorus-31 nuclear magnetic resonance studies of derivatives from  $(\text{RP})_2$  ( $\text{R} = \text{Et or Ph}$ ) and activated triosmium clusters  $[\text{Os}_3(\text{CO})_{10}\text{X}_2]$  ( $\text{X} = \mu\text{-H or NCMe}$ ), 2773

New rhenium complexes with phosphinite  $\text{PPh}_3\text{OR}$  or phosphonite  $\text{P}(\text{OR})_2$  ( $\text{R} = \text{Me, Et or Pr}$ ) ligands: synthesis and protonation of various polyhydrides, 2779

Reactions of  $[\text{RhRu}_2\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})_2\text{BH}_2]$  with didentate phosphines and the synthesis and crystal structure of  $[\text{RhRu}_2\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})(\mu\text{-dppf-P}_2\text{P})\text{AuB}]$  ( $\text{dppf} = 1,1'\text{-bis(diphenylphosphino)ferrrocene}$ ), 2917

A new method of creating co-ordinative unsaturation: synthesis and reactions of a reactive iridium(I) complex  $[\text{Ir}(\text{CO})(\text{PPh}_2\text{CH}_2\text{C}(\text{Bu}^+)=\text{N}-\text{N}=\text{C}(\text{Bu}^+)\text{CH}_2\text{PPh}_2)]\text{PF}_6^-$ ; crystal structures of  $[\text{Ir}(\text{CO})(\eta^2\text{-L})\{\text{PPh}_2\text{CH}_2\text{C}(\text{Bu}^+)=\text{N}-\text{N}=\text{C}(\text{Bu}^+)\text{CH}_2\text{PPh}_2\}]^+\text{PF}_6^-$  ( $\text{L} = \text{MeO}_2\text{CC}=\text{CO}_2\text{Me or COCH}=\text{CHCONMe}_2$ ), 3111

Reactions of  $(\text{F}_3\text{CP})_4$  and  $(\text{F}_3\text{CP})_5$  with ruthenium and osmium carbonyl clusters: characterisation and crystal structures of the products, 3131

Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated  $[\text{M}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-NC}_2\text{H}_4)]$  ( $\text{M} = \text{Ru or Os}$ ) and

**HYDRIDE (contd)**

ferrocene chromophores bridged by an aromatic unit, 3209

Activation of the N–H bond of ethyl carbamate and urea by ruthenium hydride complexes. Unexpected loss of alcohol or ammonia to yield isocyanato complexes, 3221

Reaction of the  $\eta^2(4e)$ -donor alkyne complexes  $[\text{Mo}(\eta^2(4e)-\text{R}^1\text{C}_2\text{R}^2)\{\text{P}(\text{OMe})_3\}_2](\eta\text{-C}_5\text{H}_5)]$  ( $\text{R}^1 = \text{R}^2 = \text{Ph}$  or  $\text{Me}$ ;  $\text{R}^1 = \text{Me}$ ,  $\text{R}^2 = \text{Ph}$ ) with the Grignard reagents  $\text{MgR}^1(\text{X})$  ( $\text{R}^1 = \text{Me}$ ,  $\text{Et}$ ,  $\text{CH}_3\text{Ph}$ ,  $\text{CH}_2\text{CH}=\text{CH}_2$  or  $\text{CH}=\text{CH}_2$ ) and  $\text{CH}_2(\text{MgI})_2$ , 3387

The reaction of HCl with  $[\text{MoH}_3(\text{CCBu}_3)(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPPh}_2)_2]$ : enforced protonation at the metal gives an alkyne, 3397

Syntheses, structures and chemistry of the high-nuclearity ruthenium hydrido cluster anions  $[\text{Ru}_{10}\text{H}_2(\text{CO})_{25}]^{2-}$  and  $[\text{Ru}_{11}\text{H}(\text{CO})_{27}]^{3-}$ , 3515

Rapid and mild synthesis of  $[\text{Re}_2(\text{CO})_9]$  by reduction of  $[\text{NH}_3]_2[\text{ReO}_4]$  at atmospheric CO pressure, 3611

Synthesis and characterisation of diphenylvinylphosphine-substituted osmium and ruthenium carbonyl clusters: crystal and molecular structures of  $[\text{Os}_3(\text{CO})_11(\text{Ph}_2\text{PCH}=\text{CH}_2)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-Ph}_2\text{PCH}=\text{CH}_2)]$ , 3825

Reactions of the linear triosmium cluster  $[\text{Os}_3(\text{H}_2\text{CO})_9(\eta^2-\text{C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  with  $[\text{Os}_3(\text{CO})_{12-n}(\text{NCMe})_n]$  ( $n = 1$  or 2): crystal structures of  $[\text{Os}_4(\mu\text{-H})(\text{CO})_9(\eta^2-\text{C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$  and  $[\text{Os}_5(\mu\text{-H})(\text{CO})_9(\eta^2-\text{C}_6\text{F}_5\text{NNNC}_6\text{F}_5)]$ , 4083

Aluminiun amides derived from metallation of *N,N'-di-tert-butylethylenediamine*, 4163

Synthesis and reactivity of the formally co-ordinatively unsaturated diruthenium hydride  $[\text{Ru}_2(\mu\text{-H})(\mu\text{-CO})(\text{CO})_3]^{+}$  ( $\text{PrO}_2\text{PNiEtP(OPr)}_2)_2$ ) $^{+}$  and its co-ordinatively saturated parent  $[\text{Ru}_2\text{H}(\text{CO})_5(\mu\text{-PrO}_2\text{PNiEtP(OPr)}_2)_2]^{+}$ , 4171

**HYDROCARBONYLATION**

Direct formation of alcohols by hydrocarbonylation of alkenes under mild conditions using rhodium trialkylphosphine catalysts, 1161

Hydrocarbonylation of prop-2-en-1-ol to butane-1,4-diol and 2-methylpropan-1-ol catalysed by rhodium triethylphosphine complexes, 1793

**HYDRODESULFURIZATION**

Hydrogenation and hydrogenolysis of thiophenic molecules catalysed by soluble metal complexes, 801

**HYDROFORMYLATION**

Novel amphiphilic diphosphines: synthesis, rhodium complexes, use in hydroformylation and rhodium recycling, 2143

Synthesis and crystal structure of a dinuclear rhodium complex. Catalytic activity of mono- and di-nuclear rhodium phosphite complexes in hydroformylation, 3561

**HYDROGEN-2**

Molecular dynamics in solid bis( $\eta$ -arene)molybdenum complexes studied by solid-state deuterium nuclear magnetic resonance spectroscopy, 2989

**HYDROGENATION**

Hydrogenation and hydrogenolysis of thiophenic molecules catalysed by soluble metal complexes, 801

**HYDROGEN BONDING**

Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149

Stabilisation of unusual simultaneous binding of four cytosine nucleobases to copper(I) by a novel network of bifurcated hydrogen bonding, 1333

Self-assembly of copper(I) complexes into three-dimensional coordination polymers with channel networks by hydrogen bonding or by tridentate ligands, 2031

Reactions of (diethylthiocarbamato)halogenotellurium(II) complexes of  $\text{R}[\text{Te}(\text{S},\text{CNEt}_2)_2\text{X}_2]$  [ $\text{R} = \text{NEt}_3$ ,  $\text{X} = \text{I}$ ;  $\text{R} = \text{H}(\text{phen})_2$  ( $\text{phen} = 1,10\text{-phenanthroline}$ ),  $\text{X} = \text{I}$  or  $\text{Br}$ ], 2253

Hydrogen-bond recognition of nucleosides by oligopyridine ligands and their ruthenium complexes, 2389

Preparations and structures of two *cis,cis*-1,3,5-triaminocyclohexane-based complexes containing hydrogen-bonded solvent molecules, 3337

Model complexes for the carboxylate–histidine–metal triad systems in metalloenzymes. Synthesis, crystal structures and spectroscopic properties of  $[\text{M}(\text{Him})_2(\text{O}_2\text{CMe})_2]$  ( $\text{M} = \text{Zn}^{II}$  or  $\text{Co}^{II}$ ,  $\text{Him} = \text{imidazole}$ ), 3465

Structurally diverse copper(II) herbicide complexes: mono- and bi-nuclear neutral or cationic complexes, 3737

A pyrazolate-bridged cyclic tetrานuclear copper(II) complex: synthesis, crystal structure and magnetic properties, 3799

5-Aminoorotic acid, a versatile ligand with the ability to exhibit differing co-ordination and hydrogen-bonding modes: synthesis and crystal structures of platinum(II) complexes, 3805

Redox behaviour of 4Fe-4S ferredoxin model arenethiolate complexes involving specific NH $\cdots\cdots$ S hydrogen bonds assisted by a neighbouring phenyl group, 3859

Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes  $\text{MC}_3\text{L}$  ( $\text{M} = \text{As}$ ,  $\text{Sb}$  or  $\text{Bi}$ ;  $\text{L} = 1,4,7$ -trimethyl-1,4,7-triazacyclononane). Formation and crystal

structures of  $[\text{AsCl}_3\text{L}][\text{As}_2\text{OCl}_5]$ ,  $[\text{H}_2\text{L}]_2[\text{Sb}_2\text{OCl}_6]\text{Cl}_2$ ,  $[\text{HL}]$  and  $[\text{H}_2\text{L}]_2[\text{Sb}_2\text{Cl}_6]\text{Cl}\cdot\text{MeCN}\cdot\text{H}_2\text{O}$ , 4045

**HYDROGEN CYANIDE**

Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237

**HYDROGENOLYSIS**

Hydrogenation and hydrogenolysis of thiophenic molecules catalysed by soluble metal complexes, 801

**HYDROGEN PEROXIDE**

Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Kinetic studies of the reaction of hydrogen peroxide with manganese-reconstituted horseradish peroxidase, 1059

8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391

Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diron(III) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037

Chemical origin of high activity in oxygenation of cyclohexane by  $\text{H}_2\text{O}_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

**HYDROGEN TRANSFER**

Synthesis and structure of  $[\text{Ru}_3(\text{CO})_9(\mu\text{-H})(\mu\text{-}\eta^2\text{-PhCH}_2\text{CH}_2\text{C}=\text{NPh})]$ , a product of an ‘intramolecular’ hydrogen-transfer reaction, 1429

**HYDROLYSIS**

Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametalate derivatives, 681

Dinuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227

Synthesis, acid hydrolysis and formation of the  $[(\text{H}_3\text{N})_2\text{CoOMoO}_3]^+$  ion in aqueous solution, 2637

Kinetic study of stereochemical and other factors governing hydrolytic cleavage of a peptide ligand in binuclear palladium(II) complexes, 2653

Zinc(II) complexes of tripodal ligands providing phenolate and pyridine donors: formation, structure and hydrolytic activity, 2857

Hydrolysis of magnesium(II) at elevated temperatures, 3071

Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087

Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes  $\text{MC}_3\text{L}$  ( $\text{M} = \text{As}$ ,  $\text{Sb}$  or  $\text{Bi}$ ;  $\text{L} = 1,4,7$ -trimethyl-1,4,7-triazacyclononane). Formation and crystal structures of  $[\text{AsCl}_3\text{L}][\text{As}_2\text{OCl}_5]$ ,  $[\text{H}_2\text{L}]_2[\text{Sb}_2\text{OCl}_6]\text{Cl}_2$ ,  $[\text{HL}]$  and  $[\text{H}_2\text{L}]_2[\text{Sb}_2\text{Cl}_6]\text{Cl}\cdot\text{MeCN}\cdot\text{H}_2\text{O}$ , 4045

Hydrolytic equilibria of lead(II) at 100°C in 3.6 mol kg $^{-1}$   $\text{LiClO}_4$ , 4597

**HYDROXIDE**

Structure and properties of  $\text{SrCu}(\text{OH})_4\text{H}_2\text{O}$ , 7

Moderately strong antiferromagnetic exchange coupling in a dinuclear complex containing a  $\mu$ -hydroxo- $\mu$ -carboxylato-dicopper(II) core, 247

$\text{RbIn}(\text{OH})\text{PO}_4$ : an indium(III) phosphate containing spirals of corner-sharing  $\text{InO}_6$  octahedra, 815

Kinetic and thermodynamic studies of intramolecular rearrangement and cleavage of the heterobinuclear aqua ion,  $[(\text{H}_2\text{O})_2\text{Rh}(\mu\text{-OH})_2\text{Cr}(\text{OH}_2)_4]^{4+}$ , 1051

Kinetics of oxidation of ascorbate by tetrานuclear cobalt(III) complexes (‘hexols’) in aqueous solution, 1393

Novel octadecanuclear copper(II)-lanthanoid(III) clusters. Synthesis and structures of  $[(\text{Cu}_{12}\text{Ln}_{12}(\mu_3\text{-OH})_2(\text{O}_2\text{CCH}_2\text{CH}_2\text{NC}_6\text{H}_4)_{12}]^{2-}$  ( $\text{H}_2\text{O})_{16}[\text{ClO}_4]_2$ ] $^{16}\text{H}_2\text{O}$  ( $\text{Ln}^{III} = \text{Gd}^{III}$  or  $\text{Sm}^{III}$ ), 2443

Structural studies of polyoxometalate-anion-pillared layered double hydroxides, 2963

Reactions of electrophiles with  $[(\text{Bu}^+\text{N})_2\text{Re}^{VI}(\mu\text{-NBu}^+)]_2$ , 2995

Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087

Synthesis, structure and spectroscopic studies on hydroxido-bridged heterotrinuclear complexes of cobalt(III) with ethane-1,2-diamine and ammonia as terminal ligands, 3179

Studies on the thermal decomposition of basic lead(II) carbonate by Fourier-transform Raman spectroscopy, X-ray diffraction and thermal analysis, 3639

Syntheses and characterization of novel tri- and hexa-nuclear zinc complexes with biomimetic chelate ligands, 3731

Uncapped and polar capped prisms of cobalt and nickel, 3745

Preparation and characterization of rhodium(III) complexes containing 1,1,1-tris(dimethylphosphinomethyl)ethane (tdmme). Structures of  $[\text{RhX}_3(\text{tdmme})]$  ( $\text{X} = \text{Cl}$ ,  $\text{Br}$  or  $\text{I}$ ),  $[\text{Rh}(\text{NH}_3)_3(\text{tdmme})]^{3+}$  and  $[\text{Rh}(\text{tdmme})_3(\mu\text{-X})_3]^{3+}$  ( $\text{X} = \text{Cl}$  or  $\text{OH}$ ) in the solid state and in solution, 3779

**HYDROXYLAMIDE**

Homoleptic hydroxylamides of titanium, zirconium and hafnium, 2089

**HYDROXYLAMINE**

Iron catalysis of the reduction of oxime-bound nickel(IV) by hydroxylamine, 3417

**IGLO CALCULATIONS**

Synthesis and characterisation of *pseudocloso* iridium and ruthenium diphenyl carbaboranes. Molecular structures of 1,2- $\text{Ph}_2\text{-}3-(\text{C}_6\text{H}_5)\text{-}3,1,2\text{-}pseudocloso\text{-}\text{RuC}_2\text{B}_9\text{H}_9$  and 1,2- $\text{Ph}_2\text{-}3\text{-}(\text{cym})\text{-}3,1,2\text{-}pseudocloso\text{-}\text{RuC}_2\text{B}_9\text{H}_9$  (*cym* = *p*-cymene) and individual gauge for localised orbital calculations on carbaboranes, 231

**IMIDAZOLE**

Deprotonation and self-assembly of a symmetric oxamidate-bridged dinuclear copper(II) complex involving imidazole moieties, 861

Synthesis of sterically hindered bis(imidazole) proligands and an exploration of their co-ordination chemistry with copper(II), 2101

Crystal structures and superoxide dismutase mimetic activity of  $[\text{CuL}(\text{Him})_2]\text{-MeOH}$  and  $[\text{CuL}(\text{minm})_2]\text{-H}_2\text{O}$  [ $\text{HL}$  = 4-amino-N-(thiazol-2-yl)benzenesulfonamide, *Him* = imidazole, *minm* = *N*-methylimidazole], 2239

Dinuclear nucleobase-anion-bridged complexes of Pd<sup>II</sup> and Pt<sup>II</sup> with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409

Synthesis and co-ordination of 1,4,7,10-tetraazacyclododecanes disubstituted with imidazole and pyrazole, 2679

Synthesis, crystal structure and redox properties of  $\mu$ -oxo-bis( $\mu$ -acetato)diruthenium(II) complexes having 2,2'-bipyridine and imidazole bases as terminal ligands, 3289

Model complexes for the carboxylate-histidine-metal triad systems in metalloenzymes. Synthesis, crystal structures and spectroscopic properties of  $[\text{M}(\text{Him})_2(\text{O}_2\text{CMe})_2]$  (*M* = Zn<sup>II</sup> or Co<sup>II</sup>, *Him* = imidazole), 3465

Nitrate- and nitrite-ligated 3,6-bis(imidazolyl)pyridazine-bridged dinuclear copper(II) cations with copper-copper separations similar to that in *Achromobacter cycloclastes* nitrite reductase, 4295

**IMIDAZOLINE**

Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>2</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenabis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit-2I<sub>2</sub> and ebit-2I<sub>2</sub>, 3583

**IMIDE**

Molybdenum(VI) imidodisulfur complexes formed via double sulfur-carbon bond cleavage of dithiocarbamates, 183

Pentamethylcyclopentadienyl imido compounds of chromium, 271

$\eta^2$ -Sulfenamido and -selenamido complexes of titanium, zirconium, molybdenum and tungsten, 1309

Synthesis, characterization and crystal structures of a series of ruthenium  $\mu_2$ -nitrene carbonyl clusters, 1707

Uranium(IV) bis(amido), imido and bis(acetylide) complexes: synthesis, molecular structure, solution dynamics and interconversion reactions, 2541

Reactions of electrophiles with  $[(\text{Bu}'\text{N})_2\text{Re}^{\text{VI}}(\mu\text{-NBu}')_2]$ , 2995

Reactions of imido complexes of iridium, rhodium and ruthenium, 3771

Synthesis, characterization and molecular structure of a triruthenium carbonyl cluster containing both phenylimido and nitrosobenzene ligands, 3911

Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes via sulfenamido rearrangement, 4063

Novel structural forms for imidoamides and o-alkoxides of bismuth, 4159

Bent versus linear imido ligands in five-co-ordinate molybdenum complexes, 4197

Preparation and crystal structure of an oxoimido complex of molybdenum containing the 2,4,6-triphenylphenylimide ligand, 4265

Bridged bis(imido)molybdenum complexes: isolobal analogues of *ansa*-zirconocenes and bizirconocenes, 4513

Synthesis and isolation of two high-nucularity manganese(II) imido compounds: structural characterization of a compound containing a  $[\text{Mn}_6(\mu_3\text{-NPh})_4]^{4+}$  core, 4613

**IMIDOYLIMIDATE**

Formation of *N*-imidoylimidatoruthenium(II) complexes via ruthenium-promoted hydration of nitriles, 291

**IMINE**

Synthesis and structure of  $[\text{Ru}_3(\text{CO})_6(\mu\text{-H})(\mu_3\text{-}\eta^2\text{-PhCH}_2\text{CH}_2\text{C}\equiv\text{NPh})]$ , a product of an 'intramolecular' hydrogen-transfer reaction, 1429

Raman spectroelectrochemical studies and crystal structure of a binuclear copper(I) complex with a bridging diimine ligand, 1591

Equilibria and rates of olefin substitution in zerovalent palladium complexes containing a 2-pyridylmethanimine ligand, 1921

**IMINO**

Preparations and structures of a series of novel, mono-substituted *cis*,*cis*-1,3,5-triaminocyclohexane-based complexes, 401

**IMINOACYL**

Reactivity studies of  $\eta^2$ -acyl complexes of molybdenum. Kinetics of  $\eta^2$ -acyl to  $\eta^2$ -iminoacyl isomerization in their reactions with isocyanides, 3687

**IMINOPHOSPHORANE**

Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes *via* sulfenamido rearrangement, 4063

**INCLUSION**

Dissolving alkali metals in zeolites: genesis of the perfect cluster crystal, 719

Formation and structure of inclusion complexes involving  $\alpha$ -cyclodextrin and alkyl(aqua)cobaloxime, 4425

**INDAN**

Cyclic and open-chain derivatives of bis(trihydrosilyl)benzenes, 4193

**INDENYL**

Synthesis, structure and properties of new iron-molybdenum and tungsten fulvalene-bridged heterobimetallic complexes, 1323

Synthesis of alkynyl, cyclic carbene and vinylidene osmium(II) complexes: first indenyl half-sandwich osmium(II) complexes, 2547

Synthesis and characterisation of  $(\eta^5\text{-cyclopentadienyl})(\eta^5\text{-ring})\text{Ti}(\text{C}_2\text{H}_5\text{Bu}^i)_2$  complexes. Crystal and molecular structure of racemic  $[\text{Ti}(\eta^5\text{-C}_5\text{H}_5)(\eta^5\text{-C}_5\text{H}_5)(\text{CH}_2\text{SiMe}_2)\text{Cl}]$ , 2843

Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527

**INDIUM**

A halide-free route to Groups 12 and 13 organometallic and metalloorganic complexes, 133

$\text{RbIn(OH)}\text{PO}_4$ : an indium(III) phosphate containing spirals of corner-sharing  $\text{InO}_6$  octahedra, 815

Neutral five-co-ordinate gallium(III) and indium(III) complexes derived from sulfur ligands, 2815

Preparation of heterometallic single cubes  $[\text{W}_x\text{MS}_y(\text{H}_2\text{O})_{12}]^{n+}$  (*M* = In, Ge or Sn) and the first corner-shared double cubes  $[\text{W}_x\text{SnS}_y(\text{H}_2\text{O})_{12}]^{n+}$  and  $[\text{W}_x\text{Mo}_3\text{SnS}_y(\text{H}_2\text{O})_{12}]^{n+}$  as derivatives of  $[\text{W}_x\text{S}_y(\text{H}_2\text{O})_6]^{n+}$ , 4089

**INSERTION**

Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527

**INTERCALATION**

Intercalation of 1,4,10,13-tetraoxa-7,16-diazacyclooctadecane by  $\alpha$ - and  $\gamma$ -zirconium phosphates, 1245

Synthesis of phosphate-phenylphosphonates of titanium(IV) and their *n*-butylamine intercalates, 2285

**INTERMEDIATE**

Spectroscopic titration of  $[\text{Re}_4(\mu_3\text{-H})_4(\text{CO})_{12}]$  with chloride ions. An electron-precise tetrานuclear cluster as intermediate in the transformation of a tetranuclear unsaturated cluster into trinuclear unsaturated anions, 1771

Kinetics and equilibrium in the nitric acid-nitrous acid-sodium thiocyanate system, 1915

Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237

Studies on the thermal decomposition of basic lead(II) carbonate by Fourier-transform Raman spectroscopy, X-ray diffraction and thermal analysis, 3639

Nitrile hydration catalysed by palladium(II) complexes, 3677

A new route to diiron bis( $\mu$ -thiocarbene) complexes: molecular

structure of  $\{[\text{Fe}_2\text{L-C(CN)SMc}_2](\text{cp})_2\}$  ( $\text{cp}$  =  $\eta^5\text{-C}_5\text{H}_5$ ) containing the unusually folded six-membered metallocycle  $\text{Fe}_2\text{C}_2\text{S}_2$ , 3693

Structural characterization of possible intermediates in vanadium-catalysed sulfide oxidation, 3865

Thermodynamic  $\alpha$ -CH acidities of amino acid fragments in five-co-ordinate bicycloazastannoxides in  $\text{Me}_2\text{SO}$ , 3889

Molybdenum(IV) chloride-tetrahydrothiophene (ht) complexes in the catalytic polymerization and cyclotrimerization of alkynes: structures and reactivities of the possible intermediates  $[\text{MoCl}_3(\text{ht})_2(\text{PhC}\equiv\text{CR})]$  (*R* = Me or Et), 4533

**IODIDE**

Facile one-step synthesis of the cobalt(III) and nickel(III) tertiary arsine complexes  $[\text{M}_3(\text{AsMe}_3)_2]$  (*M* = Co or Ni) directly from the powdered elemental metals, 157

Oxidative-addition reactions on planar chloranilate rhodium systems. Crystal structure of  $[\text{Rh}_2(\mu\text{-C}_6\text{Cl}_5\text{O}_4)\text{Me}_2\text{I}_2(\text{CO})_2(\text{PPh}_3)_2]$ , 2155

**IODINE**

Spectrophotometric study of the complexation of iodine with macrocycles in chloroform solution, 2215  
 Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>2</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenesbis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit-2L<sub>2</sub> and ebit-2L<sub>2</sub>, 3583

**IODOCARBON**

Silver-iodocarbon complexes: crystal structures of eight compounds obtained from the reactions of AgPF<sub>6</sub> or AgNO<sub>3</sub> with CH<sub>2</sub>L<sub>2</sub>, I(CH<sub>2</sub>)<sub>2</sub>I and simple aryl iodides, 1669

**IONIC LIQUID**

Vanadium chloride and chloride oxide complexes in an ambient-temperature ionic liquid. The first use of bis(trichloromethyl) carbonate as a substitute for phosgene in an inorganic system, 2787

**ION MOBILITY**

Metal-containing carbon clusters, 567

**ION TRANSPORT**

Efficient and selective up-hill transport of anions by pH-induced affinity switching of a copper complex carrier, 1367

Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating O<sub>4</sub>N<sub>2</sub><sup>-</sup>, O<sub>2</sub>S<sub>2</sub>N<sub>2</sub><sup>-</sup> and S<sub>4</sub>N<sub>2</sub><sup>-</sup>-donor sets, 3591

**IR**

Is nickel dibromide bent in a nitrogen matrix? A combined simultaneous Fourier-transform infrared and X-ray absorption fine structure matrix isolation study, 249

Intrazeolite large palladium clusters prepared by organometallic chemical vapour deposition, 765

Spectroscopic and structural studies on 1:2 adducts of silver(I) salts with tricyclohexylphosphine, 2449

Spectroscopic and structural studies on 1:1 adducts of silver(I) salts with tricyclohexylphosphine, 2459

Fourier-transform infrared study of short-lived highly reduced dithiole complexes by potential-modulation spectro-electrochemical techniques, 2945

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of PPh<sub>3</sub> with gold(I) halides; crystal structure of [AuBr(PMe<sub>3</sub>)<sub>3</sub>], 3121

The monophenylhydrosilasesquioxanes PhH<sub>n-1</sub>Si<sub>n</sub>O<sub>1.5n</sub> where n = 8 or 10, 3313

Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>2</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenesbis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit-2L<sub>2</sub> and ebit-2L<sub>2</sub>, 3583

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of PPh<sub>3</sub> with gold(I) halides; crystal structure of [AuBr(PMe<sub>3</sub>)<sub>3</sub>] (1996, 3121), 3897

**IRIDIUM**

Synthesis and characterisation of *pseudocloso* iridium and ruthenium diphenyl carbaboranes. Molecular structures of 1,2-Ph<sub>2</sub>-3-(η-C<sub>6</sub>H<sub>5</sub>)-3,1,2-*pseudocloso*-RuC<sub>2</sub>B<sub>9</sub>H<sub>9</sub> and 1,2-Ph<sub>2</sub>-3-(cym)-3,1,2-*pseudocloso*-RuC<sub>2</sub>B<sub>9</sub>H<sub>9</sub> (cym = *p*-cymene) and individual gauge for localised orbital calculations on carbametallaboranes, 231

Syntheses and structural characterisation of [Ir<sub>4</sub>(CO)<sub>11</sub>(η<sup>1</sup>-L)] and [Ir<sub>4</sub>(CO)<sub>10</sub>(η<sup>1</sup>-L)] {L = [Fe(η<sup>5</sup>-P<sub>2</sub>C<sub>2</sub>Bu<sub>3</sub>')(η<sup>5</sup>-P<sub>2</sub>C<sub>2</sub>Bu<sub>3</sub>')] and [Fe(η<sup>5</sup>-C<sub>2</sub>H<sub>5</sub>)(η<sup>5</sup>-P<sub>2</sub>C<sub>2</sub>Bu<sub>3</sub>')]}} and [Ir<sub>4</sub>(CO)<sub>11</sub>(μ-η<sup>1</sup>-[Fe(η<sup>5</sup>-C<sub>2</sub>H<sub>5</sub>)(η<sup>5</sup>-P<sub>2</sub>C<sub>2</sub>Bu<sub>3</sub>')]])Ir<sub>4</sub>(CO)<sub>11</sub>] and its facile conversion to [Ir<sub>4</sub>H(CO)<sub>10</sub>[Fe(η<sup>5</sup>-C<sub>2</sub>H<sub>5</sub>)(η<sup>5</sup>-P<sub>2</sub>C(CMe<sub>2</sub>CH<sub>2</sub>)CBu<sub>3</sub>')]Ir<sub>4</sub>(CO)<sub>11</sub>], via an unusual C-H activation, 739

Synthesis, structures and redox properties of platinum metal phosphaphia complexes: crystal structures of *cis*-[RuCl<sub>2</sub>(RSC<sub>2</sub>H<sub>4</sub>SR)<sub>2</sub>]-0.75Et<sub>2</sub>O and *cis*-[RhCl<sub>2</sub>(RSC<sub>2</sub>H<sub>4</sub>RS)]PF<sub>6</sub>·CH<sub>2</sub>Cl<sub>2</sub> (R = Ph, P(=O)CH<sub>2</sub>CH<sub>3</sub>), 1261

Methanol carbonylation revisited: thirty years on, 2187

Electrosynthesis and co-ordination chemistry of polymer films coated on electrode surfaces from pyrrole polyprpyridyls, 2503

Syntheses and characterization of binuclear Rh<sub>2</sub>, Ir<sub>2</sub> and RhIr complexes containing dimethyl phosphonate and pyrazolate bridging ligands, 2877

A new method of creating co-ordinative unsaturation: synthesis and reactions of a reactive iridium(I) complex [Ir(CO)(PPh<sub>3</sub>CH<sub>2</sub>C(Bu')=N-N=C(Bu')CH<sub>2</sub>PPh<sub>3</sub>)]PF<sub>6</sub>: crystal structures of [Ir(CO)(η<sup>2</sup>-L)(PPh<sub>3</sub>CH<sub>2</sub>C(Bu')=N-N=C(Bu')CH<sub>2</sub>PPh<sub>3</sub>)]PF<sub>6</sub> (L = MeO<sub>2</sub>CC=CCO<sub>2</sub>Me or COCH=CHCONMe), 3111

Macropolyhedral boron-containing cluster chemistry. Isolation and characterisation of the eighteen-vertex *nido*-5'-iridaoctaborane-[3'.8':1,2]-*clos*-4-iridododecarobane, [(CO)(PM<sub>3</sub>)<sub>2</sub>IrB<sub>16</sub>Ir(CO)(PM<sub>3</sub>)<sub>2</sub>], 3145

Carbon-fluorine and -hydrogen bond activation and carbon-carbon bond formation in η<sup>5</sup>-pentamethylcyclopentadienyl-

rhodium and -iridium phosphine complexes; crystal structures of [M(η<sup>5</sup>-C<sub>5</sub>Me<sub>4</sub>)Cl{(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>P(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>}]<sup>+</sup>BF<sub>4</sub><sup>-</sup> (M = Rh or Ir), 3215

Synthesis and characterisation of selenoether macrocyclic complexes of Co<sup>III</sup>, Rh<sup>III</sup> and Ir<sup>III</sup>: crystal structures of *trans*-[CoBr<sub>2</sub>([16]JaneSe<sub>4</sub>)]BP<sub>4</sub> and *trans*-[IrBr<sub>2</sub>([16]JaneSe<sub>4</sub>)]BP<sub>4</sub> ([16]JaneSe<sub>4</sub> = 1,5,9,13-tetraselenacyclohexadecane), 3713

Reactions of imido complexes of iridium, rhodium and ruthenium, 3771

Reactions of carbon disulfide with open *nido*-6-iridacarbaboranes. The formation of closed ten-vertex cluster compounds with boron-to-metal dithioformate bridges and a novel *isoclos* — close cluster conversion, 3819

Co-ordination chemistry of a P,O-donor ligand: synthesis of new complexes of Ru, Rh and Ir containing Ph<sub>3</sub>NHP(O)Ph<sub>2</sub> or [Ph<sub>3</sub>PNP(O)Ph<sub>2</sub>]<sub>2</sub>, 4575

Group 9 metal 1,1'-bis(phosphino)ferrrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633

**IRON**

Phase transition in triiodide salts of binuclear ferrocene derivatives having long alkyl chains accompanied by a change in mixed-valence state, 139

Diiiron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties, 321

Tuning of the electrochemical recognition of substrates as a function of the proton concentration in solution using pH-responsive redox-active receptor molecules, 343

Cationic, four-co-ordinate, bis(organotransition metal)bismuth(III) complexes, 455

Dynamic disorder in crystalline [Fe<sub>2</sub>Os(CO)<sub>12</sub>] and direct evidence for rotation of the Fe<sub>2</sub>Os triangle in the solid state from variable-temperature X-ray diffraction and <sup>13</sup>C MAS NMR studies, 631

Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds [MM'Ru<sub>2</sub>H<sub>2</sub>(μ-dppf)(CO)<sub>12</sub>] [M = M' = Cu, Ag or Au; M = Cu, M' = Au; dppf = Fe(η<sup>5</sup>-C<sub>5</sub>H<sub>4</sub>PPh<sub>2</sub>)<sub>2</sub>] and the crystal structures of [MM'Ru<sub>2</sub>H<sub>2</sub>(μ-dppf)(CO)<sub>12</sub>] (M = Cu or Au, M' = Au), 643

Syntheses and structural characterisation of [Ir<sub>4</sub>(CO)<sub>11</sub>(η<sup>1</sup>-L)] and [Ir<sub>4</sub>(CO)<sub>10</sub>(η<sup>1</sup>-L)] {L = [Fe(η<sup>5</sup>-P<sub>2</sub>C<sub>2</sub>Bu<sub>3</sub>')(η<sup>5</sup>-P<sub>2</sub>C<sub>2</sub>Bu<sub>3</sub>')] and [Fe(η<sup>5</sup>-C<sub>2</sub>H<sub>5</sub>)(η<sup>5</sup>-P<sub>2</sub>C<sub>2</sub>Bu<sub>3</sub>')]}, and [Ir<sub>4</sub>(CO)<sub>11</sub>(μ-η<sup>1</sup>-[Fe(η<sup>5</sup>-C<sub>2</sub>H<sub>5</sub>)(η<sup>5</sup>-P<sub>2</sub>C<sub>2</sub>Bu<sub>3</sub>')]])Ir<sub>4</sub>(CO)<sub>11</sub>] and its facile conversion to [Ir<sub>4</sub>H(CO)<sub>10</sub>[Fe(η<sup>5</sup>-C<sub>2</sub>H<sub>5</sub>)(η<sup>5</sup>-P<sub>2</sub>C(CMe<sub>2</sub>CH<sub>2</sub>)CBu<sub>3</sub>')]Ir<sub>4</sub>(CO)<sub>11</sub>], via an unusual C-H activation, 739

Characterization, redox properties and structures of the iron nitridocarbonyl clusters [Fe<sub>6</sub>N(CO)<sub>11</sub>(PPh<sub>3</sub>C<sub>2</sub>H<sub>4</sub>FeC<sub>5</sub>H<sub>5</sub>)<sub>2</sub>]<sup>-</sup>, [Fe<sub>6</sub>N(CO)<sub>12</sub>]<sup>-</sup> and [Fe<sub>6</sub>H(N(CO)<sub>12</sub>)<sup>2</sup>]<sup>-</sup>, 747

Na<sub>2</sub>Fe<sub>6</sub>(PO<sub>4</sub>)<sub>6</sub>: a mixed-valence iron phosphate containing a tetramer of edge-sharing FeO<sub>6</sub> octahedra, 819

Kinetic studies of the reaction of hydrogen peroxide with manganese-reconstituted horseradish peroxidase, 1059

Synthesis, characterisation, Mössbauer spectra, and structures of some trinuclear iron-tin clusters, 1145

Intermediate-spin iron(II) octaethyltetraazaporphyrinates with weakly co-ordinating anions: synthesis, characterization and crystal structure, 1249

X-Ray absorption fine structure study of the structural changes accompanying spin cross-over in the acetone solvates of [Fe(dppe)<sub>2</sub>X]<sub>2</sub> [dppe = *cis*-1,2-bis(diphenylphosphino)-ethylene; X = Cl or Br], 1275

Synthesis, structure and properties of new iron-molybdenum and -tungsten fulvalene-bridged heterobimetallic complexes, 1323

Unusual reactions of a cationic carbyne complex of manganese with carbonyliron dianions to form a novel dimetal carbene-bridged complex [MnFe(*μ*-C(COEt)Ph)(η-C<sub>5</sub>H<sub>5</sub>)(CO)<sub>4</sub>]<sup>+</sup>, 1443

Comparative study of Mössbauer spectra of iron(III) complexes of *para*-substituted tetraphenylporphyrins. Electronic effects of substituents and axial ligands, 1519

Reactions of heterocyclic organotellurium compounds with triiron dodecacarbonyl: reactions of thiophenes revisited, 1545

14H<sub>31</sub>)<sub>2</sub>Mn<sup>II</sup>Fe<sup>III</sup>(C<sub>2</sub>O<sub>4</sub>)<sub>3</sub>, 1839

Paramagnetic tetrahedral dinitrosilyron complexes containing redox-active cyanomanganese ligands, 1959

Structural studies on an iron(III) complex containing (*Z*)-2-(2-aminothiazol-4-yl)-N-(2-hydroxyethyl)-2-(hydroxymino)-acetamide, a model compound for a cephalosporin antibiotic Cefdinir, 1967

Influence of mixed sulfur-nitrogen oxides on the redox kinetics of iron ions in aqueous solution, 2135

Crystal structures of [Fe<sub>2</sub>(CO)<sub>9</sub>P(OR)<sub>3</sub>]<sub>2</sub> (R = Me or Pr), 2159

Synthesis and spectroscopic characterization of new mixed-metal, mixed-chalcogenide clusters [Fe<sub>2</sub>W(CO)<sub>10</sub>(μ<sub>3</sub>-Se)(μ<sub>3</sub>-E)] (E = Te or S). Structures of [Fe<sub>2</sub>M(CO)<sub>10</sub>(μ<sub>3</sub>-Se)(μ<sub>3</sub>-E)] (M = W, E = Se or Te; M = Mo, E = Se), 2173

**IRON (contd)**

Bis(carboxylato) complexes of platinum(II). Structural and bonding analysis of  $[\text{Pt}(\text{O}_2\text{CR})_2(\text{L}-\text{L})]$  [ $\text{L}-\text{L}$  =  $2\text{PPh}_3$ ,  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$  or  $\text{Fe}(\text{C}_5\text{H}_5\text{PPh}_2)_2$ ;  $\text{R}$  = Me, CF<sub>3</sub>, Pr<sup>t</sup> or Ph], 2207  
 Kinetic studies on the redox reactions of *Clostridium pasteurianum* rubredoxin, 2219  
 The interaction between cytochrome c and *trans*-[PtCl<sub>2</sub>(NH<sub>3</sub>)<sub>2</sub>], 2223  
 Mössbauer and electron paramagnetic resonance studies on some new bis(ligated) porphyrinatoiron(II) complexes with aliphatic amines. Models for cytochromes b, 2361  
 Dijiron(II) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties (1996, 321), 2394  
 Synthesis, structure, spectra and redox chemistry of iron(III) complexes of tridentate pyridyl and benzimidazolyl ligands, 2519  
 Formation and reactivity of a peroxide adduct of iron(III) complexes containing substituted phenolic derivatives, 2579  
 Preparation and properties of the corner-shared double cube  $[\text{Mo}_8\text{PbS}_3(\text{H}_2\text{O})_n]^{8+}$  as a derivative of  $[\text{Mo}_8\text{S}_3(\text{H}_2\text{O})_n]^{4+}$ , 2623  
 Outer-sphere redox reactions of  $[\text{Co}^{III}(\text{NH}_3)_6(\text{H}_2\text{P}_2\text{O}_7)]^{m-\rightarrow n-}$  complexes. A temperature- and pressure-dependence kinetic study on the influence of the phosphorus oxoanions, 2665  
 Synthesis and electrochemistry of 2,3,7,8,12,13,17,18-octachloro-5,10,15,20-tetrakis(3,5-dichloro-2,6-dimethoxyphenyl)porphyrin ( $\text{H}_2\text{tdcdmpp}$ ),  $[\text{Co}^{II}(\text{tdcdmpp})]$  and  $[\text{M}(\text{tdcdmpp})\text{Cl}]$  ( $\text{M}$  = Fe<sup>II</sup> or Mn<sup>III</sup>), 2793  
 Synthesis, structure, magnetic, spectroscopic and electrochemical behaviour of chloro-iron(II) and -manganese(III) complexes of 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrin, 2799  
 Reactions of  $[\text{RhRu}_2\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})_6\text{BH}_2]$  with didentate phosphines and the synthesis and crystal structure of  $[\text{RhRu}_2\text{H}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})_6(\mu\text{-dpf}-P,P)\text{AuB}]$  [dpf = 1,1'-bis(diphenylphosphino)ferrocene], 2917  
 Synthesis, electrochemistry and photoconductivity of oligo- and poly-(1,1'-diethylferrocenylene)s, 2929  
 A bis(cyclopalladated) tetraneuclear derivative of methyl ferrocenyl ketone azine:  $[(\overline{\text{Pd}}(\eta^5\text{-C}_5\text{H}_5)\text{Fe}(\eta^5\text{-C}_5\text{H}_5)\text{CMc}=\overline{\text{N}})\text{Cl}(\text{PPh}_3)_2]$ , 3195  
 Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated  $[\text{M}_3(\mu-\text{H})(\text{CO})_{10}(\mu\text{-NC}_5\text{H}_4)]$  ( $\text{M}$  = Ru or Os) and ferrocene chromophores bridged by an aromatic unit, 3209  
 Reactions of cyano-iron- and -ruthenium compounds with *gem*-dicyanepoxides. A new pathway to vinyl isocyanide complexes of iron and ruthenium, 3231  
 A Fe<sup>III</sup>O<sub>4</sub>N<sub>x</sub> co-ordination sphere assembled *via* an enolate-imine-amide ligand. Effect of amide protonation on the redox behaviour and stereochemistry of the iron(III) centre, 3293  
 Gas-phase, liquid and solid complexes in the  $\text{POCl}_3\text{-FeCl}_3$  system, 3405  
 Synthesis, photophysics and electrochemistry of  $[\text{Au}(\text{dpff})\text{R}_2]$  [ $\text{dpff} = \text{Fe}(\eta^5\text{-C}_5\text{H}_5\text{PPh}_2)_2$ ;  $\text{R}$  = alkyl, aryl or alkynyl]. Crystal structure of  $[\text{Au}_2(\text{dpff})(\text{C}_{16}\text{H}_9)_2]$  ( $\text{C}_{16}\text{H}_9$  = pyren-1-yl), 3411  
 Iron catalysis of the reduction of oxime-bound nickel(IV) by hydroxylamine, 3417  
 Synthesis and crystal structures of heterobimetallic 2-(diphenylphosphino)pyridine complexes containing an Fe–M ( $\text{M}$  = Cu<sup>II</sup>, Ag<sup>I</sup> or Hg<sup>II</sup>) donor–acceptor bond and a mononuclear iron(II) complex bearing a pair of planar strained four-membered chelate rings, 3475  
 Synthesis of the 17-electron cations  $[\text{FeL}(\text{L}')(\text{NO}_2)]^+$  ( $\text{L}, \text{L}' = \text{PPh}_3, \text{OPPh}_3$ ): structure and bonding in four-co-ordinate metal dinitrosyls, and implications for the identity of paramagnetic iron dinitrosyl complex catalysts, 3491  
 Synthesis, characterisation and electrochemical analysis of a bis(ferrocenyl) vinyl allyl ether-substituted triosmium cluster, 3521  
 Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527  
 Electron-transfer salts derived from *N,N'*-dicyano-*p*-benzoquinone dimines and the novel dinuclear organometallic donor  $[\text{Fe}_2(\eta^5\text{-C}_5\text{Me}_5)_2(\mu\text{-SEt})_2(\text{CO})_2]$ , 3533  
 Reduction of dinitrogen bound at an iron(0) centre, 3539  
 2,4-Diferrocenyl-1,3-dithiadiphosphetane 2,4-disulfide; structure and reactions with catechols and  $[\text{PtCl}_2(\text{PR}_3)_2]$  ( $\text{R}$  = Et or Bu<sup>n</sup>), 3653  
 Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on  $[\text{Cl}_2\text{FeS}_2\text{VS}_2\text{FeCl}_2]^{3-}$ , 3667  
 A new route to diiron bis( $\mu$ -thiocarbene) complexes: molecular structure of  $[\text{Fe}_2\mu\text{-C}(\text{CN})\text{SMe}](\text{cp})_2$  ( $\text{cp} = \eta^5\text{-C}_5\text{H}_5$ ) containing the unusually folded six-membered metallocycle  $\text{Fe}_2\text{C}_2\text{S}_2$ , 3693  
 Synthesis and reactions of polymer-supported dicarbonyl(dienyl)-(triphenylphosphine)iron(0) complexes, 3747  
 Substitution reactions of  $[\text{Ge}_2\text{Co}_2\text{Fe}_2(\text{CO})_8]$  with methylgermanes,

and its decarbonylation. Structures of  $[\text{Fe}_2\{\mu_4\text{-GeCo}_2(\text{CO})_6(\mu\text{-GeMe}_2)\}_2(\text{CO})_2]$  and  $[\text{Fe}_3\{\mu_3\text{-GeCo}(\text{CO})_4\}_2(\text{CO})_2]$ , 3853

Redox behaviour of 4Fe–4S ferredoxin model arenethiolate complexes involving specific NH  $\cdots$  S hydrogen bonds assisted by a neighbouring phenyl group, 3859  
 Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diron(III) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037

Synthesis, molecular structure and palladium(II) and platinum(II) complex chemistry of 3-(ferrocen-1-yl)-1-(pyridin-2-yl)pyrazole, 4055

Metalloocene–nucleobase conjugates. Synthesis, structure and nucleic acid binding, 4115

Molecules bearing a redox-active spacer. Synthesis and co-ordination behaviour of 1,1'-bis(5-methyl-2,5-diazaheptyl)ferrocene, 4121

Synthesis, characterisation and electrochemistry of the novel ferrocenyl-dienediyliotriosmium cluster  $[\text{Os}_3(\text{CO})_9\{\mu_3\text{-}\eta^4\text{-Fe}(\text{C}_5\text{H}_4\text{SiMe}_2)_2\}_2]$ , 4147

Versatile ligand behaviour of phenyl 2-pyridyl ketone benzoylhydrazone in palladium(II) complexes, 4239

Electron self-exchange and cross-reaction studies on wild-type *Clostridium pasteurianum* rubredoxin and its Val-8  $\rightarrow$  Glu variant, 4287

Oxidative addition of diferroacenyl dichalcogenides to  $[(\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)_2(\mu\text{-Cl}))_2]$ . Syntheses, crystal structures and some reactivities of  $[(\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)_2\text{Cl}(\mu\text{-ER}))_2]$  ( $\text{E} = \text{S}, \text{Se}$  or Te; R = ferrocenyl), 4307

Mixed iron–silicon–tin complexes stabilized by a phosphinoenolate bridging ligand. Crystal structure of  $[(\text{OC})_3(\text{MeO})_2\text{Si}-\text{Fe}(\mu\text{-Ph}_2\text{PCH-C(O)Ph})\text{SnBu}^n_2]$ , 4365

Preparation and characterization of carbene complexes of iron from azolyl and thiienyl precursors, 4431

Chemical origin of high activity in oxygenation of cyclohexane by  $\text{H}_2\text{O}_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

An expedient, mild, reduction method for the preparation of alkylferrocenes, 4617

Group 9 metal 1,1'-bis(phosphino)ferrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633

**IRON-SULFUR CLUSTER**

Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on  $[\text{Cl}_2\text{FeS}_2\text{VS}_2\text{FeCl}_2]^{3-}$ , 3667

Redox behaviour of 4Fe–4S ferredoxin model arenethiolate complexes involving specific NH  $\cdots$  S hydrogen bonds assisted by a neighbouring phenyl group, 3859

**ISOCYANATE**

Activation of the N–H bond of ethyl carbamate and urea by ruthenium hydride complexes. Unexpected loss of alcohol or ammonia to yield isocyanato complexes, 3221

Cascade complexation of pseudo-halide by dicopper cryptates: a linear Cu-NNN-Cu unit, 3227

**ISOCYANIDE**

Reactions of di- and tri-nuclear palladium and platinum isocyanide complexes with highly basic and bulky aromatic phosphines containing methoxy groups at the 2 and 6 positions, 1815

Oxidative-addition reactions on planar chloranilate rhodium systems. Crystal structure of  $[\text{Rh}_2(\mu\text{-C}_6\text{Cl}_5\text{O}_4)\text{Me}_2\text{I}_2(\text{CO})_2(\text{PPh}_3)_2]$ , 2155

Dinuclear palladium(II) complexes with isocyanide and N-donor bidentate ligands, 3059

Reactions of cyano-iron- and -ruthenium compounds with *gem*-dicyanepoxides. A new pathway to vinyl isocyanide complexes of iron and ruthenium, 3231

Reactivity studies of  $\eta^2\text{-acyl}$  complexes of molybdenum. Kinetics of  $\eta^2\text{-acyl}$  to  $\eta^2\text{-iminoacyl}$  isomerization in their reactions with isocyanides, 3687

Photophysical properties and crystal structures of luminescent phenylethynylgold(I) complexes of alkyl and aryl isocyanides, 3699

**ISOINDOLINE**

Cyclic and open-chain derivatives of bis(trihydrosilyl)benzenes, 4193

**ISOMERISM**

Mechanisms of alkyne trimerisation at molybdenum and tungsten centres leading to novel metallacycles: crystal and molecular structures of two isomeric forms of  $[\text{Mo}(\text{C}(\text{CF}_3)_2\text{C}(\text{CF}_3)_2\text{C}(\text{CF}_3)_2\text{C}(\text{CF}_3)_2\text{C}(\text{CO}_2\text{Me})\text{C}(\text{CO}_2\text{Me})(\text{SPr})^2]^{2-}$  ( $\eta^3\text{-C}_5\text{H}_5$ ), 999

Macropolyhedral boron-containing cluster chemistry. *syn*- and *anti*- $[(\text{C}_5\text{Me}_5)_2\text{Rh}_2\text{S}_2\text{B}_{15}\text{H}_{14}(\text{OH})]$ ; an interesting nineteen-vertex isomeric pair, 1775

Important role of CH  $\cdots$   $\pi$  interaction in linkage isomers of bis(2,2'-bipyridine)ruthenium(II) complexes with pyrimidine-2-thione and related ligands, 2851

A new method of creating co-ordinative unsaturation: synthesis

**ISOMERISM (contd)**

and reactions of a reactive iridium(I) complex  
 $[\text{Ir}(\text{CO})(\text{PPPh}_2)_2\text{CH}_2\text{C}(\text{Bu}')-\text{N}-\text{N}-\text{C}(\text{Bu}')\text{CH}_2\text{PPPh}_2]_2\text{PF}_6$ :  
 crystal structures of  $[\text{Ir}(\text{CO})(\eta^2-\text{L})\text{PPPh}_2\text{CH}_2\text{C}(\text{Bu}')-\text{N}-\text{N}-\text{C}(\text{Bu}')\text{CH}_2\text{PPPh}_2]_2\text{PF}_6$  ( $\text{L} = \text{MeO}_2\text{CC}=\text{CO}_2\text{Me}$  or  
 $\text{COCH}=\text{CHCONMe}$ ), 3111

Reactivity studies of  $\eta^2$ -acyl complexes of molybdenum. Kinetics of  $\eta^2$ -acyl to  $\eta^2$ -iminoacyl isomerization in their reactions with isocyanides, 3687

5-Aminoorotic acid, a versatile ligand with the ability to exhibit differing co-ordination and hydrogen-bonding modes: synthesis and crystal structures of platinum(II) complexes, 3805

Synthesis and crystal structures of two isomers of  $[\text{Ru}_4(\text{CO})_4(\mu-\text{C}_{15}\text{H}_{20})]$ , 3833

Difunctionalised arene  $\text{Ru}_4\text{C}$  cluster compounds with electron-withdrawing groups, 3837

Kinetics and mechanism of ligand substitution in  $[\text{Cr}(\pi\text{-ligand})(\text{CO})_3]$  complexes (ligand = naphthalene, pyrene, thiophene, 2,6-dimethylpyridine or cycloheptatriene) and of *fac/mer* isomerization in  $[\text{M}(\text{CO})_3\text{L}_3]$  ( $\text{M} = \text{Cr}, \text{Mo}$  or  $\text{W}$ ;  $\text{L} = \text{phosphite, phosphine or isocyanide}$ ), 3959

Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diron(III) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037

Group 9 metal 1,1'-bis(phosphino)ferrrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633

**ISOPOLYANION**

Structural characterization of spherical octadecavanadates encapsulating  $\text{Cl}^-$  and  $\text{H}_2\text{O}$ , 283

Polyoxotitanates join the Keggin family: synthesis, structure and reactivity of  $[\text{Ti}_{18}\text{O}_{28}\text{H}_2]\text{[OBu}^\text{i}]_n$ , 691

Applications of extended X-ray absorption fine structure spectroscopy to the study of polyoxometalates, 2951

Structural studies of polyoxometalate-anion-pillared layered double hydroxides, 2963

Oxygen and vanadium exchange processes in linear vanadate oligomers, 3357

**KETONE**

Dinuclear nucleobase-anion-bridged complexes of  $\text{Pd}^{II}$  and  $\text{Pt}^{II}$  with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409

Synthesis and structures of copper(II) anion-bridged aggregates and chains: control over molecular shape, 3173

Syntheses, characterization and structural chemistry of biladien-*ac*-10-one and -*bc*-5-one metal complexes with 4N or (3N + O) coordination, 3937

**KINETICS**

Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Tin-carbon bond formation by simple addition of cyclic dienes to a bis(amino)stannylene: a mechanistic study, 161

Kinetics and mechanism of the cobaloxime(II)-catalysed oxidation of 2-aminophenol by dioxygen. A phenoxazinone synthase model involving free-radical intermediates, 473

Characterisation of a cationic triinobium aqua ion cluster and related studies, 703

Kinetics of ternary complex formation with the (nitrilocetato)-zinc(II) complex: the effect of buffers and pH, 867

A unified mechanistic view obtained from the temperature and pressure dependence of the spontaneous, acid-, and base-assisted cyclometallation reactions of dirhodium(II) complexes, 1045

Kinetic and thermodynamic studies of intramolecular rearrangement and cleavage of the heterobinuclear aqua ion,  $[(\text{H}_2\text{O})_2\text{Rh}(\mu\text{-OH})\text{Cr}(\text{OH})_2]^{4+}$ , 1051

Kinetic studies of the reaction of hydrogen peroxide with manganese-reconstituted horseradish peroxidase, 1059

Alkali-metal complexes of a pendant-arm tetraaza macrocycle. Equilibrium, inter- and intra-molecular exchange processes, 1379

Kinetics and mechanism of the oxidation of L-ascorbic acid by *cis*-diaqua cobalt(III) ammine complexes, 1385

Kinetics of oxidation of ascorbate by tetranuclear cobalt(III) complexes ('hexols') in aqueous solution, 1393

Synthesis, characterization and redox properties of mixed phosphine nitroruthenium(II) complexes. Crystal structure of  $\text{trans-}[\text{Ru}(\text{NO}_2)_2(\text{terpy})(\text{PMe}_2)_2(\text{PPh}_3)_2][\text{ClO}_4]_2\text{H}_2\text{O}$ , 1463

Tuning the reactivity of platinum(II) complexes through cyclo-metallation. A comment, 1471

Tuning the reactivity of platinum(II) complexes through cyclo-metallation. A reply, 1472

Comparative study of oxidation by chromium(V) and chromium(VI), 1607

Mechanism of chelation of phenanthroline derivatives to  $\text{Mo}(\text{CO})_6$  deduced from pulsed photolysis studies in several solvents at high pressure, 1629

Kinetics and equilibria in the nitric acid-nitrous acid-sodium thiocyanate system, 1915

Equilibria and rates of olefin substitution in zerovalent palladium complexes containing a 2-pyridylmethanimine ligand, 1921

Preparation and characterization of 1,3,2-dithiazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with  $\text{SNS}^-$ , 1997

Mechanistic information on ligand-substitution reactions of europium(III) in aqueous solution from high-pressure stopped-flow experiments, 2127

Influence of mixed sulfur-nitrogen oxides on the redox kinetics of iron ions in aqueous solution, 2135

Spectrophotometric study of the complexation of iodine with macrocycles in chloroform solution, 2215

Kinetic studies on the redox reactions of *Clostridium pasteurianum* rubredoxin, 2219

Preparation and properties of the corner-shared double cube

$[\text{Mo}_3\text{Pd}_4(\text{H}_2\text{O})_{14}]^{4+}$  as a derivative of  $[\text{Mo}_3\text{S}_4(\text{H}_2\text{O})_8]^{4+}$ , 2623

Reaction kinetics and mechanism of formation of  $[\text{H}_4\text{Co}_2\text{Mo}_2\text{O}_{10}]^{2-}$  by peroxymonosulfate oxidation of  $\text{Co}^{II}$  in the presence of molybdate, 2629

Synthesis, acid hydrolysis and formation of the  $[(\text{H}_3\text{N})_3\text{CoMoO}_3]^{+}$  ion in aqueous solution, 2637

Electron transfer from thiosulfate to nickel(IV) oxime imine complexes in aqueous solution, 2645

Kinetic study of stereochemical and other factors governing hydrolytic cleavage of a peptide ligand in binuclear palladium(II) complexes, 2653

Alcohol-alkoxy exchange between  $\text{Sn}(\text{OBu}')_4$  and  $\text{HOBu}'$  in co-ordinating and non-co-ordinating solvents, 2659

Outer-sphere redox reactions of  $[\text{Co}^{III}(\text{NH}_3)_5(\text{H}_2\text{P}_2\text{O}_7)]^{(m-3)-}$  complexes. A temperature- and pressure-dependence kinetic study on the influence of the phosphorus oxoanions, 2665

Correlation between kinetic and thermodynamic complex-formation constants for the interaction of bis(amine)palladium(II) with inosine, inosine 5'-monophosphate and guanosine 5'-monophosphate, 2673

Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087

Kinetics and mechanism of complexation of *trans*- $[\text{PtCl}(\text{NH}_3)_2(\text{H}_2\text{O})]^+$  with inosine and 1-methylinosine in aqueous solution at different pH values, 3101

The reaction of HCl with  $[\text{MoH}_3(\text{CCBu}')( \text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPPh}_2)_2]$ : enforced protonation at the metal gives an alkyne, 3397

Iron catalysis of the reduction of oxime-bound nickel(IV) by hydroxylamine, 3417

Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527

Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on  $[\text{Cl}_2\text{Fe}_2\text{VS}_2\text{FeCl}_2]^{2-}$ , 3667

Nitrile hydration catalysed by palladium(II) complexes, 3677

Reactivity studies of  $\eta^2$ -acyl complexes of molybdenum. Kinetics of  $\eta^2$ -acyl to  $\eta^2$ -iminoacyl isomerization in their reactions with isocyanides, 3687

Kinetics of oxidation of nitrogen(III) by an oxo-bridged dinuclear manganese(III,IV) complex in weakly acidic media, 3951

Kinetics and mechanism of ligand substitution in  $[\text{Cr}(\pi\text{-ligand})(\text{CO})_3]$  complexes (ligand = naphthalene, pyrene, thiophene, 2,6-dimethylpyridine or cycloheptatriene) and of *fac/mer* isomerization in  $[\text{M}(\text{CO})_3\text{L}_3]$  ( $\text{M} = \text{Cr}, \text{Mo}$  or  $\text{W}$ ;  $\text{L} = \text{phosphite, phosphine or isocyanide}$ ), 3959

Electrochemical deprotection of a substrate binding site in  $[\text{Mo}_2(\text{cp})(\mu\text{-SMc})_2(\mu\text{-Cl})]$  ( $\text{cp} = \eta^5\text{-C}_5\text{H}_5$ ) via chloride-bridge opening. Kinetics of  $\text{MeCN}$  and  $\text{BuNC}$  binding at this site, 3967

Electron self-exchange and cross-reaction studies on wild-type *Clostridium pasteurianum* rubredoxin and its Val-8 $\rightarrow$ Glu variant, 4287

Electron-transfer reactions in  $[\text{Ru}(\text{edita})(\text{pyz})]^-$  ( $\text{edita} = \text{ethylene-dinitrilotetraacetate, pyz} = \text{pyrazine}$ ), 4389

Kinetics and mechanism of reduction of  $(\text{trans-cyclohexane-1,2-diyl)dinitrilotetraacetato})\text{manganese(III)}$  by  $\text{HONH}(\text{SO}_3)^-$  and  $\text{HON}(\text{SO}_3)_2^{2-}$ , 4393

**LABELLING**

Hydrocarbonylation of prop-2-en-1-ol to butane-1,4-diol and 2-methylpropan-1-ol catalysed by rhodium triethylphosphine complexes, 1793

**LACTONYL**

Synthesis and reactivity of  $\eta^3$ - $\gamma$ -lactonyl complexes of molybdenum: crystal structures of  $[\text{Mo}(\eta^3\text{-OC(O)CHCHCH}(\text{CO})(\eta\text{-C}_5\text{Me}_5)]$ ,  $[\text{Mo}(\eta^2\text{-PhCH}_2\text{NHCHCH-CH}(\text{CO}_2\text{H})(\text{CO})(\eta^3\text{-C}_5\text{H}_5)]$  and  $[\text{Mo}(\eta^3\text{-OC(O)CHCHCHCO})(\text{NCMe})(\text{CO})(\eta\text{-C}_5\text{H}_5)]$ , 2299

**LANTHANIDE**

Extent of hydration of octadentate lanthanide complexes incorporating phosphinate donors: solution relaxometry and luminescence studies, 17

Heteroleptic poly(pyrazolyl)borate derivatives of the lanthanides.

**LANTHANIDE (contd)**

Structural and electronic spectral studies of some salicylaldehyde complexes, 501  
 Crystal structures and luminescence spectra of ten-co-ordinate lanthanide(III) complexes ( $\text{Ln} = \text{Ce}, \text{Sm}, \text{Eu}$  or  $\text{Tb}$ ) with 2,6-bis(benzimidazol-2-yl)pyridine (1994, 2523), 553  
 Synthesis and crystal structures of tris(2-methoxyethylcyclopentadienyl)lanthanide complexes, 955  
 The preparation and crystal and molecular structures of new luminescent Schiff-base complexes featuring coupled lanthanide(III) cations, 961  
 Complexation properties of macrocyclic polyoxadiazaphosphonates, 1113  
 Complexes of lanthanide(III) ions with macrocyclic ligands containing pyridine head units, 1493  
 Rare-earth-metal solvent extraction with calixarene phosphates, 1687  
 Synthesis, crystal structure and luminescence properties of a europium(III) complex with a new planar aromatic tridentate  $\text{N}_3$  ligand, 1767  
 Synthesis of lanthanide(III) complexes of a 20-membered hexaaza macrocycle, 1867  
 Co-ordination chemistry of tridentate phosphinotiolates: syntheses and structures of  $[\text{Li}_4(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{SiMe}_3-3)_2)_2(\text{MeOCH}_2\text{CH}_2\text{OMe})_2], [\text{Sn}_2(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{SiMe}_3-3)_2)_2]$  and  $[\text{NH}_{\text{Et}_3}]_2[\text{Sm}(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{R}-3)_2)_2(\text{py})_2]\cdot 2\text{py}$  ( $\text{R} = \text{H}$  or  $\text{SiMe}_3$ ,  $\text{py} = \text{C}_3\text{H}_5\text{N}$ ), 1941  
 Mechanistic information on ligand-substitution reactions of europium(III) in aqueous solution from high-pressure stopped-flow experiments, 2127  
 Synthesis and structure of a novel carboxylate-bridged heterometallic copper(II)-gadolinium(III) complex, 2181  
 Novel octadecanuclear copper(II)-lanthanoid(III) clusters. Synthesis and structures of  $[\text{Cu}_{12}\text{Ln}_{12}(\mu_3\text{-OH})_2(\text{O}_2\text{CCH}_2\text{CH}_2\text{NC}_6\text{H}_4\text{H}_2)_2(\text{H}_2\text{O})_{12}(\text{ClO}_4)_2][\text{ClO}_4]_{12}\cdot 16\text{H}_2\text{O}$  ( $\text{Ln}^{\text{III}} = \text{Gd}^{\text{III}}$  or  $\text{Sm}^{\text{III}}$ ), 2443  
 Getting excited about lanthanide complexation chemistry, 3613  
 Synthesis and spectroscopy of unsymmetric mononuclear lanthanide cryptates. Structure of two europium(III) cryptates co-existing in the same crystal  $[\text{EuL}(\text{OH}_2)]\cdot[\text{Eu}(\text{HL})(\text{NCS})]\cdot 9\text{H}_2\text{O}\cdot 2\text{MeCN}\cdot \text{EtCN}\cdot \text{EtOH}$  ( $\text{H}_2\text{L}$  = a phenol-bridged  $\text{N}_3$  Schiff-base cryptand), 3883

**LATTICE ENERGY**

Prediction of crystal structures, 2077

**LCAO-SCF MO CALCULATIONS**

Structure of copper(II) complexes with L-leucyl-D- or L-leucyl-L-phenylalanine and molecular orbital calculations on their stabilization, 3449

**LEAD**

Tin-carbon bond formation by simple addition of cyclic dienes to a bis(amino)stannylene: a mechanistic study, 161  
 Unusual binding of exogenous anions in some lead(II) complexes with a functionalized macrocycle, 1173  
 Some Schiff base complexes of lead(II), 1509  
 Synthesis and structure of diled(II) and dimanganese(II) complexes of macrocycles derived from 3,6-disformylpyridazine, 2117  
 Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on  $\text{M}_2(\text{OPr})_6^-$  ( $\text{M} = \text{Sn}, \text{Zr}$  or  $\text{Ti}$ ) anions: crystal and molecular structures of  $[\text{Cd}(\text{Sn}_2(\text{OPr})_6)]$  and  $[\text{Sn}(\text{Zr}_2(\text{OPr})_6)]_2$ , 2485  
 Preparation and properties of the corner-shared double cube  $[\text{Mo}_8\text{PbS}_8(\text{H}_2\text{O})_{18}]^{4+}$  as a derivative of  $[\text{Mo}_8\text{S}_8(\text{H}_2\text{O})_4]^{4+}$ , 2623  
 Template synthesis of helicates of a [2 + 2] tetraamine macrocycle: crystal structure of the lead(II) perchlorate complex, 3421  
 Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating  $\text{O}_4\text{N}_2^-$ ,  $\text{O}_2\text{S}_2\text{N}_2^-$  and  $\text{S}_4\text{N}_2^-$ -donor sets, 3591  
 Studies on the thermal decomposition of basic lead(II) carbonate by Fourier-transform Raman spectroscopy, X-ray diffraction and thermal analysis, 3639  
 Hydrolytic equilibria of lead(II) at 100 °C in 3.6 mol kg<sup>-1</sup>  $\text{LiClO}_4$ , 4597

**LETTER**

Is the fluxional motion of bidentate 2,2':6,2'-terpyridine in *cis*- $[\text{M}(\text{C}_6\text{F}_5)_2(\text{terpy})]$  ( $\text{M} = \text{Pd}^{\text{II}}$  or  $\text{Pt}^{\text{II}}$ ) a dissociative process? A comment, 253  
 Tuning the reactivity of platinum(II) complexes through cyclo-metallation. A comment, 1471  
 Tuning the reactivity of platinum(II) complexes through cyclo-metallation. A reply, 1472  
 Ligand-field parameters for square-planar platinum(II) compounds. A comment, 4027  
 Ligand-field parameters for square-planar platinum(II) compounds. A reply, 4027

**LIGAND-FIELD ANALYSIS**

Nickel(II)  $\text{N}_3\text{O}_2$  Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437

**LIQUID CRYSTAL**

Mesomorphic ( $\eta^1$ -arene)tricarbonylchromium complexes, 2533  
 On the design of high co-ordination number metal-based liquid crystals: mesomorphic bipyridine complexes of rhodium(I), 3913

**LITHIUM**

A halide-free route to Groups 12 and 13 organometallic and metalloorganic complexes, 133  
 Covacency in metal complexes of 1,4-diazabutadiene (dab). A density functional investigation of the electronic structures of  $[\text{M}(\text{dab})_2]$  ( $\text{M} = \text{Li}, \text{Ga}$  or  $\text{Co}$ ) and  $[\text{Th}(\text{NH}_3)(\text{NH}_3)_2(\text{dab})]$ , 1583  
 Co-ordination chemistry of tridentate phosphinotiolates: syntheses and structures of  $[\text{Li}_4(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{SiMe}_3-3)_2)_2(\text{MeOCH}_2\text{CH}_2\text{OMe})_2], [\text{Sn}_2(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{SiMe}_3-3)_2)_2]$  and  $[\text{NH}_{\text{Et}_3}]_2[\text{Sm}(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{R}-3)_2)_2(\text{py})_2]\cdot 2\text{py}$  ( $\text{R} = \text{H}$  or  $\text{SiMe}_3$ ,  $\text{py} = \text{C}_3\text{H}_5\text{N}$ ), 1941

Low-co-ordination arsenic and antimony compounds: synthesis and characterisation of 2-arsa- and 2-stiba-1,3-dionato(lithium(t)) complexes,  $[\text{Li}(\text{OC}(\text{R})\text{EC}(\text{R})\text{O})\text{L}]$  ( $\text{E} = \text{As}$  or  $\text{Sb}$ ;  $\text{R} = \text{Bu}^t$ ,  $\text{C}_6\text{H}_5\text{Pr}_3-2,4,6$  or  $\text{C}_6\text{H}_5\text{Bu}'_3-2,4,6$ ;  $\text{L} = \text{Et}_2\text{O}$  or  $\text{MeOCH}_2\text{CH}_2\text{OMe})_2$ , 3277

Dilithium diamides  $[\{\text{Li}(\text{OC}(\text{R})_2\}\text{C}_2\text{H}_{12}(\text{NR})_2]$  ( $\text{R} = \text{SiMe}_3$  or  $\text{CH}_2\text{Bu}'_3$ ) derived from  $\text{R}-\text{S}-$  or  $\text{R},\text{S}-2,2'$ -diamino-1,1'-binaphthyl derivatives, 3595

Role of bifunctional N/S bridging in the association of metals: syntheses and structures of heterobimetallic  $[(\text{PPH}_3)_2\text{CuL}_2\text{Li}(\text{thf})_2]\text{thf}$  and tetrameric  $[(\text{CuL}(\text{PPh}_3)_4)]_4$  ( $\text{L} = 1,3\text{-benzoxazoline-2-thionate}$ , thf = tetrahydrofuran) 3793

Agostic interactions in organometallic compounds. A Cambridge Structural Database study, 3925

**LUMINESCENCE**

Extent of hydration of octadentate lanthanide complexes incorporating phosphinate donors: solution relaxometry and luminescence studies, 17

Crystal structures and luminescence spectra of ten-co-ordinate lanthanide(III) complexes ( $\text{Ln} = \text{Ce}, \text{Sm}, \text{Eu}$  or  $\text{Tb}$ ) with 2,6-bis(benzimidazol-2-yl)pyridine (1994, 2523), 553

The preparation and crystal and molecular structures of new luminescent Schiff-base complexes featuring coupled lanthanide(III) cations, 961

Synthesis, crystal structure and luminescence properties of a europium(III) complex with a new planar aromatic tridentate  $\text{N}_3$  ligand, 1767

Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(I) complex, 1769

Photoluminescence, photoredox properties and crystal structures of rhodium(V)-benzylidyne complexes with phosphine ligands, 2827

Luminescent complexes containing a gold(I) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155

Photophysical properties and crystal structures of luminescent phenylethylnylgold(I) complexes of alkyl and aryl isocyanides, 3699

Some new dipyridyl and diphenol bridging ligands containing oligothienyl spacers, and their dinuclear polybdenum complexes: electrochemical, spectroscopic and luminescence properties, 4257

**MACROCYCLE**

Extent of hydration of octadentate lanthanide complexes incorporating phosphinate donors: solution relaxometry and luminescence studies, 17

Crystal structure and spin-doublet electron spin resonance of a magnetically coupled di( $\mu$ -phenoxo)-copper(II)nickel(II) complex, 25

Synthesis, structure and characterisation of amido derivatives of  $[\text{9JaneN}_3(1,4,7\text{-triazacyclonane})_3]$

Structure of the double salt  $[\text{Co}^{II}(\text{Cl})\text{L}^3\text{Cl}][\text{Co}^{III}(\text{CO}_3)\text{L}^3\text{Cl}]$  ( $\text{L}^3 = (2,5,8,11,11\text{R})-1,7\text{-dibenzyl-2,5,8,11-tetraethyl-1,4,7,10-tetraazacyclododecane}$ ) and related species, 45

Stereoselective assembly of a new pendant-arm macrocycle, 145

Copper(I) and (II) complexes of a macrocycle derived from 2:2 condensation of pyridine-2,6-dicarbaldehyde and 4-azaheptane-1,7-diamine; oxygenation of the copper(I) complex, 167

A reinforced polyaza[*n.n*]paracyclophane containing piperazine rings, 239

Moderately strong antiferromagnetic exchange coupling in a dinuclear complex containing a  $\mu$ -hydroxo- $\mu$ -carboxylato-dicopper(II) core, 247

Tuning of the electrochemical recognition of substrates as a function of the proton concentration in solution using pH-responsive redox-active receptor molecules, 343

Improved syntheses, structures, spectral and electrochemical properties of  $[\text{Mn}^{II}(\mu\text{-O})(\mu\text{-O}_2\text{CMe})\text{L}_2]^{2+}$  and  $[\text{Mn}^{IV}(\mu\text{-O}_2\text{CMe})\text{L}_2]^{2+}$  complexes. Two homologous series derived from eight N-substituted 1,4,7-triazacyclonanes, 353

Transition-metal complexation by calix[4]arene-derived phosphinites, 513

Asymmetric functionalisation of aza macrocycles. Syntheses, crystal structures and electrochemistry of  $[\text{Ni}(\text{Bz}[9\text{JaneN}_3]_2)[\text{PF}_6]_2\text{2MeCN}$  ( $\text{Bz}[9\text{JaneN}_3] = 1\text{-benzyl-1,4,7-triazacyclonane}$ ), 525

**MACROCYCLE (contd)**

Solid state and solution structures of two structurally related dicopper complexes with markedly different redox properties, 533

First-row transition-metal complexes of corroles: synthesis and characterization of oxotitanium(IV) and oxovanadium(II) complexes of  $\beta$ -alkylcorroles (1995, 3617), 553

Binuclear thioether half-sandwich ruthenium(II) complexes of the types  $[\text{RuL}'([9]\text{aneS}_3)_2(\mu-\text{L})_2]^{2+}$  ( $n = 1$ ,  $\text{L}' = \text{Ph}_3$ ;  $n = 2$ ,  $\text{L}' = \text{MeCN}$ ),  $[\text{Ru}([9]\text{aneS}_3)_2(\mu-\text{L})_2]^{2+}$  and  $[\text{Ru}([9]\text{aneS}_3)_2(\mu-\text{L})_2]^{+}$  with heterocyclic thioamides  $\text{L}$  ( $[9]\text{aneS}_3 = 1,4,7\text{-trithiacyclonane}$ ), 989

Structure and magnetic behaviour of the first singly bridged nickel cyanate chain and a new dinuclear complex: an approximation to the superexchange mechanism for the nickel pseudohalide system, 1013

Complexation properties of macrocyclic polyoxadiazaphosphonates, 1113

Unusual binding of exogenous anions in some lead(II) complexes with a functionalized macrocycle, 1173

Unexpected ring contraction in the barium-assisted cyclocondensation of 2,6-diformylpyridine and *N,N*-bis(2-aminoethyl)-2-phenylethylamine, 1181

Synthesis, structure and reactions of the first tellurium-containing macrocyclic Schiff base, 1203

New silica-gel-bound polyazacycloalkanes and characterization of their copper(II) complexes using electron spin resonance spectroscopy, 1209

Synthesis, magnetism, electrochemistry and reactivity of dinuclear vanadium(III) complexes of a macrocyclic tetraimine Schiff base, 1223

Synthesis, structure and reactivity of the thioether half-sandwich rhodium(III) complex  $[\text{RhCl}(\text{MeCN})_2([9]\text{aneS}_3)][\text{CF}_3\text{SO}_3]_2$  ( $[9]\text{aneS}_3 = 1,4,7\text{-trithiacyclonane}$ ), 1237

Intercalation of 1,4,10,13-tetraoxa-7,16-diazacyclooctadecane by  $\alpha$ - and  $\gamma$ -zirconium phosphates, 1245

Intermediate-spin iron(III) octaethyltetraazaporphyrinates with weakly co-ordinating anions: synthesis, characterization and crystal structure, 1249

Electronic structure of thiaphorphyrins: an X-ray photoelectron spectroscopic study, 1255

Synthesis, structures and redox properties of platinum metal phosphaphthalocyanines: crystal structures of *cis*- $[\text{RuCl}_2(\text{RSC}_2\text{H}_4\text{-SR})_2]0.75\text{Et}_2\text{O}$  and *cis*- $[\text{RhCl}_2(\text{RSC}_2\text{H}_4\text{RS})]\text{PF}_6\cdot\text{CH}_2\text{Cl}_2$  ( $\text{R} = \text{Ph}, \text{PCH}_2\text{CH}_2$ ), 1261

Alkali-metal complexes of a pendant-arm tetraaza macrocycle. Equilibrium, inter- and intra-molecular exchange processes, 1379

On the nature of the interaction between potassium ions and bis(crown ether) derivatives as revealed by low-temperature carbon-13 nuclear magnetic resonance spectroscopy, 1455

Complexes of lanthanide(III) ions with macrocyclic ligands containing pyridine head units, 1493

Facile acid-promoted decarboxylation of a macrocyclic complex. Crystal structure of [6,14-diacyl-7,13-dimethyl-1,4,8,12-tetraazacyclopentadeca-1(15),5,7,13-tetraen-2-olato]nickel(II), 1513

Comparative study of Mössbauer spectra of iron(III) complexes of *para*-substituted tetraphenylporphyrins. Electronic effects of substituents and axial ligands, 1519

One-, two- and three-dimensional copper(I) and silver(I) complexes of 2,11-dithia[3.3]paracyclophane, 1525

Rare-earth-metal solvent extraction with calixarene phosphates, 1687

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles, 1753

Primary alkanyl phosphine complexes of chromium and molybdenum; synthesis and characterisation of tricarbonyl(1,5,9-triphosphacyclododecane)chromium(0), 1801

Synthesis of lanthanide(III) complexes of a 20-membered hexaaza macrocycle, 1867

Face *versus* vertex co-ordination of tridentate crown thioethers to trinuclear cobalt clusters, 1875

Synthesis and structures of half-sandwich palladium(II) complexes of 1,4,7-trithiacyclonane ([9]aneS<sub>3</sub>) incorporating halide, phosphine and heterocyclic ligands, 1885

Barbituric acid as new locking fragment in macrocyclization: synthesis and structural characterization of aqua(perchlorato)-(2',4',6'-trioxohexahydropyrimidine-5'-spiro-6,1,4,8,11-tetraazacyclotetradecane)copper(II) perchlorate hydrate, 2017

Synthesis and structure of dilead(II) and dimanganese(II) complexes of macrocycles derived from 3,6-diformylpyridazine, 2117

Spectrophotometric study of the complexation of iodine with macrocycles in chloroform solution, 2215

Selectivity of macrocyclic aminocarboxylates for alkaline-earth metal ions and stability of their complexes, 2347

Mössbauer and electron paramagnetic resonance studies on some new bis(ligated) porphyrinatoiron(III) complexes with aliphatic amines. Models for cytochromes b, 2361

8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391

Synthesis and co-ordination of 1,4,7,10-tetraazacyclododecanes substituted with imidazole and pyrazole, 2679

Synthesis and electrochemistry of 2,3,7,8,12,13,17,18-octachloro-5,10,15,20-tetrakis(3,5-dichloro-2,6-dimethoxyphenyl)porphyrin ( $\text{H}_2\text{tdcdmp}$ ),  $[\text{Co}^{\text{II}}(\text{tdcdmp})]$  and  $[\text{M}(\text{tdcdmp})\text{Cl}]$  ( $\text{M} = \text{Fe}^{\text{III}}$  or  $\text{Mn}^{\text{III}}$ ), 2793

Synthesis, structure, magnetic, spectroscopic and electrochemical behaviour of chloro-iron(II) and -manganese(III) complexes of 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrin, 2799

Oxidative dehydrogenation of a saturated tetraaza macrocyclic nickel(II) complex: selective formation of nickel(II) complexes containing one or two imino groups, 2809

Highly branched ferrocene-functionalised polyazacycloalkanes as electroactive receptors for transition-metal ions, 2923

Synthesis, platinum-195 nuclear magnetic resonance spectroscopic and extended X-ray absorption fine structure studies on platinum-(II) and -(IV) thioether macrocyclic complexes, 2979

Magnetic and optical characterization of one-dimensional isostructural  $\sigma$ -bonded tetracyanoquinodimethanido complexes of nickel(II) and copper(II), 3015

Thiophene-linked azacryptand sites for dicopper and disilver; thiophene sulfur as an inert spacer?, 3021

Controlled synthesis and reversible oxidation of a thiolate-bridged macrocyclic dinickel(II) complex, 3031

Complexation of lop-sided 16- and 17-membered tetraaza macrocycles containing fused dibenzoc-substituents with zinc(II) and cadmium(II), 3039

Comparative study of the interaction of 'lop-sided' 14- to 17-membered tetraaza macrocycles containing fused dibenzoc substituents with nickel(II), 3045

Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles (1995, 1753), 3163

Crystal structure of high-spin ( $S = \frac{5}{2}$ ) manganese(II) 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrinate, 3243

Template synthesis of helicates of a [2 + 2] tetraimine macrocycle: crystal structure of the lead(II) perchlorate complex, 3421

*meso*-Substituted octabromoporphyrins: synthesis, spectroscopy, electrochemistry and electronic structure, 3429

Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating  $\text{O}_4\text{N}_2^-$ ,  $\text{O}_2\text{S}_2\text{N}_2^-$  and  $\text{S}_4\text{N}_2^-$ -donor sets, 3591

Getting excited about lanthanide complexation chemistry, 3613

A new class of mixed aza-thioether crown containing a 1,10-phenanthroline sub-unit, 3705

Synthesis and characterisation of selenoether macrocyclic complexes of  $\text{Co}^{\text{II}}$ ,  $\text{Rh}^{\text{III}}$  and  $\text{Ir}^{\text{III}}$ : crystal structures of  $[\text{CoBr}_2([16]\text{aneSe}_4)]\text{BPh}_4$  and  $[\text{IrBr}_2([16]\text{aneSe}_4)]\text{BPh}_4$  ( $[16]\text{aneSe}_4 = 1,5,9,13\text{-tetrasedecane}$ ), 3713

Influence of solvent polarity from water to toluene on the coordination of pyridines by the cobalt(III) corrinoid sulfitocobyrinic acid heptamethyl ester, 3721

An equilibrium study on bivalent metal complexes with 1,5,9,13,17,21-hexaazacyclotetrasocane ([24]aneN<sub>6</sub>) in aqueous solution, 3727

Molecular structure of  $[\text{Tl}(\text{tp})(\text{O}_2\text{CCF}_3)]$  and  $^{19}\text{F}$  dynamic nuclear magnetic resonance of it and  $[\text{Tl}(\text{tmpp})(\text{O}_2\text{CCF}_3)]$  ( $\text{tp} = 5,10,15,20\text{-tetraphenylporphyrinate}$ ,  $\text{tmpp} = 5,10,15,20\text{-tetra(4-methoxyphenyl)porphyrinate}$ ), 3787

Molecular structure of novel polymer-like complexes of armed-azacrown ethers with alkali-metal cations, 3871

Synthesis and spectroscopy of unsymmetric mononuclear lanthanide cryptates. Structure of two europium(III) cryptates co-existing in the same crystal  $[\text{Eu}(\text{OH}_2)_2][\text{Eu}(\text{HL})(\text{NCS})_2\cdot 9\text{H}_2\text{O}-2\text{MeCN}-\text{EtCN}-\text{EtOH}]$  ( $\text{H}_2\text{L}$  = a phenol-bridged  $\text{N}_2\text{O}_2$  Schiff-base cryptand), 3883

1,4,7-Trithiacyclonane ([9]aneS<sub>3</sub>) and 2,5,8-trithia[9]orthocyclophane complexes of molybdenum(II) and tungsten(II): crystal structures of  $[\text{WI}(\text{CO})_2([9]\text{aneS}_3)][\text{BPh}_4]$  and  $[\text{WI}(\text{CO})_2(\text{NCMe})(\text{PPH}_3)]$ , 4003

Entrapment of a Pt-H bond by a cavity-shaped receptor, 4041

Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes  $\text{MC}_3\text{L}$  ( $\text{M} = \text{As, Sb or Bi}$ ;  $\text{L} = 1,4,7\text{-trimethyl-1,4,7-triazacyclonane}$ ). Formation and crystal structures of  $[\text{AsCl}_3\text{L}][\text{As}_2\text{OCl}_6]$ ,  $[\text{H}_2\text{L}]_2[\text{Sb}_2\text{OCl}_6]\text{Cl}_2$ ,  $[\text{HL}]\text{I}$  and  $[\text{H}_2\text{L}]_2[\text{Sb}_2\text{Cl}_6]\text{Cl}-\text{MeCN}-\text{H}_2\text{O}$ , 4045

Macrocyclic dimeric vanadium(IV) and heterodinuclear vanadium(IV)-nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

Ruthenium(II) complexes of some new polynucleating ligands incorporating terpyridyl and macrocyclic aza-crown binding sites, 4249

**MACROCYCLE (contd)**

Crystal structures of nickel, copper and zinc naphthalocyaninates, 4303  
**N-Methylation of diamino-substituted macrocyclic complexes: intermolecular reactions**, 4319  
**N-Methylation of diamino-substituted macrocyclic complexes: intramolecular cyclisation**, 4325  
 First-row transition-metal complexes of mixed 'pendant-arm' derivatives of 1,4,7-triazacyclononane containing phenolate and carboxylate functional groups, 4409  
 An electrospray mass spectrometry study of some metal-ion cage complexes, 4417  
 Formation and structure of inclusion complexes involving  $\alpha$ -cyclodextrin and alkyl(aqua)cobaloxime, 4425  
 Tetraaza macrocycles containing pyridine and their copper(II) and nickel(II) complexes: X-ray, spectroscopic, molecular mechanics and molecular orbital studies, 4543

**MAGNESIUM**

Synthesis, structure and characterisation of magnesium and calcium  $\beta$ -diketonate complexes  $[\text{Ca}_2(\text{tmhd})_6]$  and  $[\text{Ca}_2(\text{tmhd})_6(\text{EtOH}_2)]$  ( $\text{Htmhd} = 2,2,6,6$ -tetramethylheptane-3,5-dione), 2435  
 Hydrolysis of magnesium(II) at elevated temperatures, 3071  
 Synthesis and isolation of two high-nuclearity manganese(II) imido compounds: structural characterization of a compound containing a  $[\text{Mn}_4(\mu\text{-NPh})_4]^{4+}$  core, 4613

**MAGNETIC PROPERTIES**

Phosphine-participated formation and crystal structures of nickel complexes with 2-sulfanylphenol and phosphine ligands, 177  
 Moderately strong antiferromagnetic exchange coupling in a dinuclear complex containing a  $\mu$ -hydroxo- $\mu$ -carboxylato-dicopper(II) core, 247  
 Structural characterization of spherical octadecavanadates encapsulating  $\text{Cl}^-$  and  $\text{H}_2\text{O}$ , 283  
 Diiiron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties, 321  
 Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters  $[\text{Mo}_2\text{E}_4(\text{edta})]^{3-}$  ( $\text{E} = \text{S}$  or  $\text{Se}$ ;  $\text{H}_2\text{edta} = \text{ethylenediaminetetraacetic acid}$ ) and  $[\text{Mo}_2\text{S}_4(\text{H}_2\text{O})_{12}]^{3+}$ , 363  
 A route to the dispersion of ultrafine cobalt particles on zeolite Na-X through salt occlusion and reduction, 775  
 Structure and magnetic behaviour of the first singly bridged nickel cyanate chain and a new dinuclear complex: an approximation to the superexchange mechanism for the nickel pseudohalide system, 1013  
 Synthesis, magnetism, electrochemistry and reactivity of dinuclear vanadium(III) complexes of a macrocyclic tetraimine Schiff base, 1223  
 Intermediate-spin iron(III) octaethyltetraazaporphyrinates with weakly co-ordinating anions: synthesis, characterization and crystal structure, 1249  
 Conformational change of the  $N,N'$ -bis(3-aminopropyl)oxamide ligand in nuclearity tailoring copper(II) complexes, 1359  
 Synthesis, magnetic behaviour and structural characterization of the alternating hexanuclear copper(II) compound  $[\text{Cu}_6(\text{tmen})_6(\mu\text{-N}_3)(\mu\text{-C}_2\text{O}_4)(\text{H}_2\text{O})_2(\text{ClO}_4)_2\cdot 2\text{H}_2\text{O}$  ( $\text{tmen} = \text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2$ ), 1385  
 Crystal structure and magnetic properties of the layer ferrimagnet  $\text{N}(\text{n-C}_5\text{H}_{11})_4\text{Mn}^{\text{II}}\text{Fe}^{\text{III}}(\text{C}_2\text{O}_4)_3$ , 1389  
 An unusual tetrานuclear copper(II) acetate structure with an open cube framework, 2179  
 Homo- and hetero-dinuclear metal complexes of bridging ligands containing phenol and azole moieties. Structure, spectroscopy, electrochemistry and magnetochemistry, 2371  
 Diiiron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties (1996, 321), 2394  
 Synthesis, structure and magnetic properties of the first two-dimensional infinite sheet-like mixed-valence manganese(II,III) complex with bridging salicylate and pyridine-2-carboxylate ligands, 2735  
 Synthesis, structure, magnetic, spectroscopic and electrochemical behaviour of chloro-iron(III) and -manganese(III) complexes of 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrin, 2799  
 Magnetic and optical characterization of one-dimensional isostructural  $\sigma$ -bonded tetracyanoquinodimethanido complexes of nickel(II) and copper(II), 3015  
 Cascade complexation of pseudo-halide by dicopper cryptates: a linear Cu-NNN-Cu unit, 3227  
 Crystal structure of high-spin ( $S = \frac{5}{2}$ ) manganese(II) 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrinate, 3243  
 Nickel(II)  $\text{N}_2\text{O}_2$  Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437

A pyrazolate-bridged cyclic tetranuclear copper(II) complex: synthesis, crystal structure and magnetic properties, 3799

Synthesis, structural characterisation, electron paramagnetic resonance and magnetic studies of homoleptic copper complexes of pyridonate ligands, 4077

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiole d<sup>1</sup> and d<sup>0</sup> niobium complexes, 4093

Macrocyclic dimeric vanadium(IV) and heterodinuclear vanadium(IV)-nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

Crystal structure, magnetic properties and spectroscopic studies of bis[1,3-bis(pyrazol-3-yl)triazenido]dicopper(II) trihydrate: a dinuclear complex with an asymmetric double pyrazolate bridge, 4275

**MAIN GROUP ELEMENT**

Tellurium compounds of the main-group elements: progress and prospects, 1185

**MALONATE**

Crystal structure and solution-state study of  $\text{K}[\text{Al}(\text{mal})_2(\text{H}_2\text{O})_2]\cdot 2\text{H}_2\text{O}$  ( $\text{H}_2\text{mal} = \text{malonic acid}$ ), 1601

Layered, network and chain structures of cadmium(II) malonate: crystal structure and cadmium-113 nuclear magnetic resonance studies, 3363

**MANGANESE**

Improved syntheses, structures, spectral and electrochemical properties of  $[\text{Mn}^{\text{III}}_2(\mu\text{-O})(\mu\text{-O}_2\text{CMe})_2\text{L}_2]^{2+}$  and  $[\text{Mn}^{\text{IV}}_2(\mu\text{-O}_2\text{C})_2\text{L}]^{2+}$  complexes. Two homologous series derived from eight N-substituted 1,4,7-triazacyclononanes, 353

Preparation and reactivities of chiral manganese(III) and copper(II) complexes of binaphthyl Schiff bases, 405

Kinetic studies of the reaction of hydrogen peroxide with manganese-reconstituted horseradish peroxidase, 1059

New mixed carbonyl-nitro and -nitrito complexes of manganese and rhenium, 1419

Unusual reactions of a cationic carbyne complex of manganese with carbonyliron dianions to form a novel dimeral carbene-bridged complex  $[\text{MnFe}\{\mu\text{-C}(\text{COEt})\text{Ph}\}(\text{n-C}_5\text{H}_5)\text{(CO)}_3]$ , 1443

Crystal structure and magnetic properties of the layer ferrimagnet  $\text{N}(\text{n-C}_5\text{H}_{11})_4\text{Mn}^{\text{II}}\text{Fe}^{\text{III}}(\text{C}_2\text{O}_4)_3$ , 1839

Paramagnetic tetrahedral dinitrosyliron complexes containing redox-active cyanomanganese ligands, 1959

Synthesis, characterisation and superoxide dismutase activity of a manganese(II) complex, 2019

Synthesis and structure of dilead(II) and dimanganese(II) complexes of macrocycles derived from 3,6-diformylpyridazine, 2117

8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391

Electrosynthesis and co-ordination chemistry of polymer films coated on electrode surfaces from pyrrole polypyridyls, 2503

Triazenede-bridged dirhodium complexes containing redox-active cyanomanganese ligands, 2511

Synthesis, structure and magnetic properties of the first two-dimensional infinite sheet-like mixed-valence manganese(II,III) complex with bridging salicylate and pyridine-2-carboxylate ligands, 2735

Synthesis and electrochemistry of 2,3,7,8,12,13,17,18-octachloro-5,10,15,20-tetrakis(3,5-dichloro-2,6-dimethoxyphenyl)porphyrin ( $\text{H}_2\text{ddmpp}$ ),  $[\text{Co}^{\text{II}}(\text{ddmpp})]$  and  $[\text{M}(\text{ddmpp})\text{Cl}]$  ( $\text{M} = \text{Fe}^{\text{III}}$  or  $\text{Mn}^{\text{III}}$ ), 2793

Synthesis, structure, magnetic, spectroscopic and electrochemical behaviour of chloro-iron(III) and -manganese(III) complexes of 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrin, 2799

Electronic and steric effects in manganese Schiff-base complexes as models for the water oxidation complex in photosystem II. The isolation of manganese-(II) and -(III) complexes of 3- and 3,5-substituted  $N,N'$ -bis(salicylidene)ethane-1,2-diamine ( $\text{H}_2\text{salen}$ ) ligands, 2935

Crystal structure of high-spin ( $S = \frac{5}{2}$ ) manganese(II) 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrinate, 3243

Polynuclear aggregation of cobalt and manganese dichlorides.

Synthesis, properties and structures of monomeric  $[\text{CoCl}_2(\text{tmen})]$ , ionic  $[\text{Co}(\mu\text{-Cl})(\mu\text{-Cl})(\text{tmen})_2]\text{[BPh}_3\text{]}$ , polymeric  $\text{MnCl}_2\text{tmen}$  and tetranuclear  $[\text{Mn}_4(\mu\text{-Cl})_6\text{Cl}_2(\text{tmen})_4]$  ( $\text{tmen} = \text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2$ ), 3469

Kinetics of oxidation of nitrogen(II) by an oxo-bridged dinuclear manganese(III,IV) complex in weakly acidic media, 3951

Intramolecular electron transfer in linear trinuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyano-manganese ligands, 3977

Kinetics and mechanism of reduction of (*trans*-cyclohexane-1,2-diyl)dinitriotetraacetato)manganese(III) by  $\text{HONH}(\text{SO}_3)^-$  and  $\text{HON}(\text{SO}_3)_2$ , 4393

The versatile chemistry of arenemanganese carbonyl complexes, 4493

Synthesis and isolation of two high-nuclearity manganese(II) imido

**MANGANESE (contd)**

compounds: structural characterization of a compound containing a  $[\text{Mn}_6(\mu_3\text{-NPh})_3]^{4+}$  core, 4613

**MASS SPECTROMETRY**

Nuclear magnetic resonance and mass spectra of organomercury hydrides and deuterides, 153

Preparation, characterisation and properties of Groups VIII and IB metal nanoparticles, 673

Gas-phase metal sulfide cluster anions, 709

Laser-desorption mass spectrometry of  $[\text{Ru}_6\text{C}(\text{CO})_{17}]$  and its derivatives: cluster aggregation in the gas phase, 771

Synthesis and electrospray mass spectrometry of platinum(II) complexes of 5,5-dithiobarbituric acid (Hdebarb); crystal structure of  $\text{cis}-[\text{PtCl}(\text{debarb})(\text{PPh}_3)_2]\text{CH}_2\text{Cl}_2$ , 1897

Gas-phase reactions of cobalt(III)  $\beta$ -ketonolates with Brønsted acid reagents, 2727

Investigation of the properties of tris(2-cyanoethyl)phosphine by electrospray and Fourier transform ion cyclotron resonance mass spectrometry, 4109

An electrospray mass spectrometry study of some metal-ion cage complexes, 4417

**MATRIX ISOLATION**

Is nickel dibromide bent in a nitrogen matrix? A combined simultaneous Fourier-transform infrared and X-ray absorption fine structure matrix isolation study, 249

The chemistry and the geometric and electronic structures of small naked metal clusters prepared using a rotating cryostat and studied by electron paramagnetic resonance, 653

**MECHANISM**

Preparation, crystal structure and mechanism of formation of a novel dinuclear carbopentazane complex,



Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Tin–carbon bond formation by simple addition of cyclic dienes to a bis(amino)stannylene: a mechanistic study, 161

Hydrogenation and hydrogenolysis of thiophenic molecules catalysed by soluble metal complexes, 801

Tuning the reactivity of platinum(II) complexes through cyclo-metallation. A comment, 1471

Tuning the reactivity of platinum(II) complexes through cyclo-metallation. A reply, 1472

Comparative study of oxidation by chromium(V) and chromium(VI), 1607

Electrochemical carboxylation of arylmethyl chlorides catalysed by  $[\text{Co}(\text{salen})][\text{H}_2\text{salen} = N,N'\text{-bis}(\text{salicylidene})\text{ethane-1,2-diamine}]$ , 1613

Hydrocarbonylation of prop-2-en-1-ol to butane-1,4-diol and 2-methylpropan-1-ol catalysed by rhodium triethylphosphine complexes, 1793

Kinetics and equilibria in the nitric acid–nitrous acid–sodium thiocyanate system, 1915

Equilibria and rates of olefin substitution in zerovalent palladium complexes containing a 2-pyridylmethanimine ligand, 1921

Preparation and characterization of 1,3,2-dithiazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with  $\text{SNS}^+$ , 1997

Mechanistic information on ligand-substitution reactions of europium(III) in aqueous solution from high-pressure stopped-flow experiments, 2127

Influence of mixed sulfur–nitrogen oxides on the redox kinetics of iron ions in aqueous solution, 2135

Methanol carbonylation revisited: thirty years on, 2187

Carbonylation of hydrocarbylpalladium(II) complexes containing substituted pyridinecarboxylate chelating ligands. Steric and electronic manipulation of the CO-insertion mechanism, 2197

Synthesis, acid hydrolysis and formation of the  $[(\text{H}_3\text{N})_2\text{CoOMoO}_3]^+$  ion in aqueous solution, 2637

Electron transfer from thiosulfate to nickel(IV) oxime imine complexes in aqueous solution, 2645

Kinetics and mechanism of complexation of *trans*- $[\text{PtCl}(\text{NH}_3)_2(\text{H}_2\text{O})]^+$  with inosine and 1-methylinosine in aqueous solution at different pH values, 3101

Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237

Molybdenum-mediated cycloisation reactions involving prop-2-ynyl, alkyne and carbon monoxide ligands, 3379

The reaction of HCl with  $[\text{MoH}_3(\text{CCBu'})_2\text{PCH}_2\text{CH}_2\text{PPh}_2]_2$ : enforced protonation at the metal gives an alkyne, 3397

Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527

Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron–sulfur-based clusters, as revealed by studies on  $[\text{Cl}_2\text{FeS}_2\text{VS}_2\text{FeCl}_2]^{3-}$ , 3667

Nitrile hydration catalysed by palladium(II) complexes, 3677

Electron-transfer reactions in  $[\text{Ru}(\text{edta})(\text{pyz})]^-$  ( $\text{edta}$  = ethylene-dinitrilotetraacetate,  $\text{pyz}$  = pyrazine), 4389

Kinetics and mechanism of reduction of (*trans*-cyclohexane-1,2-diyldinitrilotetraacetato)manganese(II) by  $\text{HONH}(\text{SO}_3)^-$  and  $\text{HON}(\text{SO}_3)_2^{2-}$ , 4393

Synthesis structure and reactivity of  $\eta^5(\text{Se})$ -butadienyl substituted molybdenum complexes, 4517

**MEMBRANE TRANSPORT**

Efficient and selective up-hill transport of anions by pH-induced affinity switching of a copper complex carrier, 1367

**MERCURY**

$(\text{Hg}_3\text{P})_2\text{HgBr}_4$ : A phosphorus analogue of the Millon's base salts, 147

Nuclear magnetic resonance and mass spectra of organomercury hydrides and deuterides, 153

Syntheses, characterization and molecular structures of monomeric selenolato complexes of mercury with nitrogen-containing chelating ligands, 461

Removing a second mercury atom from  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{2-}$ : synthesis of  $[\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]^{4-}$  and crystal structure of  $[\text{PPH}_3\text{H}_3][\text{Os}_{18}\text{Hg}_2\text{C}_2(\text{CO})_{42}]$ , 597

Metal complexes of a tetrathiafulvalene 4,5-dithiolate. Synthesis, characterisation and properties of dianionic and neutral mercury complexes, 823

Mercury–osmium carbonyl clusters resulting from facile Hg–C bond cleavage: reactions of  $[\text{Os}_{18}\text{H}_2(\text{CO})_{10}]$  with  $[\text{Hg}(\text{C}\equiv\text{CPh})_2]$  and  $[\text{RHg}=\text{CHgR}]$  ( $\text{R} = \text{Ph}, \text{Me}$  or  $\text{Et}$ ), 899

Synthesis, structure and reactions of the first tellurium-containing macrocyclic Schiff base, 1203

Deprotonation reactions of 2-thiouracil with [2-(pyridin-2-yl)-phenyl]mercury(II) acetate. Structural and spectroscopic effects, 1973

[(\text{PhS})\_2\text{Hg}(\mu-\text{SPh})\_2\text{Hg}-(\text{SPh})\_2]^{2-} 离子，2381

Reactivity of diphosphines towards methyl- and phenyl-mercury(II) ions. Crystal structure of  $[\text{Hg}(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2][\text{O}_2\text{SCF}_3]$ , 2821

Synthesis and crystal structures of heterobimetallic 2-(diphenylphosphino)pyridine complexes containing an  $\text{Fe}^+-\text{M}$  ( $\text{M} = \text{Cu}^+$ ,  $\text{Ag}^+$  or  $\text{Hg}^{II}$ ) donor–acceptor bond and a mononuclear iron(II) complex bearing a pair of planar strained four-membered chelate rings, 3475

**MERCURY-199**

Nuclear magnetic resonance and mass spectra of organomercury hydrides and deuterides, 153

Deprotonation reactions of 2-thiouracil with [2-(pyridin-2-yl)-phenyl]mercury(II) acetate. Structural and spectroscopic effects, 1973

晶格常数、振动和核磁共振光谱学特征的测定， $[(\text{PhS})_2\text{Hg}(\mu-\text{SPh})_2\text{Hg}-(\text{SPh})_2]^{2-}$  离子，2381

**METAL-ION RECOGNITION**

Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating  $\text{O}_4\text{N}_2^-$ ,  $\text{O}_2\text{S}_2\text{N}_2^-$  and  $\text{S}_2\text{N}_2^-$  donor sets, 3591

**METALLABORANE**

Synthesis and characterisation of *pseudocloso* iridium and ruthenium diphenyl carbaboranes. Molecular structures of  $1,2\text{-Ph}_2-3-(\eta-\text{C}_6\text{H}_5)_3,1,2\text{-pseudocloso-RuC}_2\text{B}_9\text{H}_9$  and  $1,2\text{-Ph}_2-3-(\text{cym})-3,1,2\text{-pseudocloso-RuC}_2\text{B}_9\text{H}_9$  ( $\text{cym} = p$ -cymene) and individual gauge for localised orbital calculations on carbamatellaboranes, 231

Synthesis, characterisation and molecular structures of the *closo* and *pseudocloso* heptamethylindenyl carbaboraboranes  $1\text{-Ph}_3-3-(\eta-\text{C}_5\text{Me}_5)-3,1,2\text{-closo-RhC}_2\text{B}_9\text{H}_{10}$  and  $1,2\text{-Ph}_2-3-(\eta-\text{C}_5\text{Me}_5)-3,1,2\text{-pseudocloso-RhC}_2\text{B}_9\text{H}_9$ . Experimental assignment of the  $^{11}\text{B}$  NMR spectrum of a *pseudocloso* carbamatellaborane, 335

Macropolyhedral boron-containing cluster chemistry. *syn*- and *anti*- $[(\text{C}_5\text{Me}_5)_2\text{Rh}_2\text{S}_2\text{B}_{15}\text{H}_{14}(\text{OH})]$ ; an interesting nineteen-vertex isomeric pair, 1775

Macropolyhedral boron-containing cluster chemistry. Isolation and characterisation of the eighteen-vertex *nido*-5'-iridatoboranone  $[3',8':1,2]-\text{closo-4-iridato-decaborane}$ ,  $[(\text{CO})(\text{PMo}_3)_2\text{IrB}_{16}\text{H}_{14}\text{Ir}(\text{CO})(\text{PMo}_3)_2]$ , 3145

Conformational polymorphism and fluxional behaviour of  $\text{M}(\text{PR}_3)_2$  units in *closo*-twelve-atom metalla-heteroboranes with  $\text{MX}_2\text{B}_9$  ( $\text{X} = \text{C}$  or  $\text{As}$ ) and  $\text{MZB}_{10}$  cages ( $\text{Z} = \text{S}$ ,  $\text{Se}$  or  $\text{Te}$ ), 3323

Reactions of carbon disulphide with open *nido*-6-iridate carbaboranes. The formation of closed ten-vertex cluster compounds with boron-to-metal dithioformate bridges and a novel *isocloso* — *closo* cluster conversion, 3819

Macropolyhedral boron-containing cluster chemistry: nineteen-vertex  $[(\text{PPh}_3)_3\text{NiS}_2\text{B}_{16}\text{H}_{12}(\text{PPh}_3)]$  and eighteen-vertex  $\text{S}_2\text{B}_{16}\text{H}_{14}(\text{PPh}_3)$ , 4155

**METALLACYCLE**

Synthesis and structural characterization of organometallic niobium(IV) amido complexes, 1979

P–N–S–C-containing metallacycles, 2893

**METALLASILOXANE**

Formation of ring-expanded products from certain combinations

**METALLASILOXANE (contd)**  
of tetraphenylsiloxanediolates  $[(\text{Ph}_2\text{SiOM}')_2\text{O}]$  ( $\text{M}' = \text{Li}$  or  $\text{Na}$ ) and Group 4 metal chlorides  $\text{MCl}_4$ , 1449

**METALLIC PARTICLES**  
A route to the dispersion of ultrafine cobalt particles on zeolite Na-X through salt occlusion and reduction, 775

**METALLOCENE**  
Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255  
Synthesis, structure and characterization of mixed cyclopentadienyl-dithiole metal complexes,  $[\text{Co}(\eta\text{-C}_5\text{H}_5)_2\text{-Ni}(\text{C}_5\text{S}_2)_2\text{-2MeCN}]$  and  $[\text{Ni}(\eta\text{-C}_5\text{H}_5)_2\text{-C}_5\text{S}_2]$ , 2261  
Metallocene-nucleobase conjugates. Synthesis, structure and nucleic acid binding, 4115  
Chloride- and dihydrogenphosphate-selective anion recognition by new acyclic mono-, bis- and tris-cobaltocenium receptors, 4129  
Bridged bis(imido)molybdenum complexes: isolobal analogues of *ansa*-zirconocenes and bizirconocenes, 4513

**METALLOLIGAND**  
Synthesis of heteronuclear compounds by use of  $[\text{Ti}(\eta^5\text{-C}_5\text{H}_4\text{PPh}_2)_2\text{SR}]$  ( $\text{R} = \text{Et}$  or  $\text{Ph}$ ) as metalloligands. Crystal structures of  $[(\text{OC})_4\text{Mo}(\text{CO})_4]_2[\mu\text{-}(\text{Ph}_2\text{PC}_2\text{H}_4)_2\text{Ti}(\text{SPPh}_2)_2]$  and  $[(\text{OC})_4\text{Mo}(\mu\text{-Ph}_2\text{PC}_2\text{H}_4)_2\text{Ti}(\mu\text{-SPPh}_2)_2\text{C}(\text{C}_6\text{F}_5)_2]$ , 3201

**METALLOMESOGEN**  
Mesomorphic ( $\eta$ -arene)tricarbonylchromium complexes, 2533

**METAL-METAL BONDING**  
Gold – a flexible friend in cluster chemistry, 561  
Diverse solid-state clusters with strong metal–metal bonding. In praise of synthesis, 575

**METAL VAPOUR DEPOSITION**  
Intrazeolite large palladium clusters prepared by organometallic chemical vapour deposition, 765

**METAL VAPOUR SYNTHESIS**  
Preparation, characterisation and properties of Groups VIII and IB metal nanoparticles, 673

**METHANIDE**  
Synthesis of heteropolymer complexes with 1,1,1-tris(diphenylphosphinomethyl)ethane. Crystal structure of  $[(\text{OC})_3\text{Mo}\{(\text{Ph}_2\text{PCH}_2)_2\text{CMet}(\text{CH}_2\text{PPPh}_2)\}\text{AuCl}]$ , 3603

**METHYL VIOLOGEN**  
Photoinduced electron transfer between  $[\text{Cu}(\text{dmphen})\text{L}_2]^+$  [ $\text{dmphen} = 2,9\text{-dimethyl-1,10-phenanthroline, L} = \text{PPh}_3(\text{C}_6\text{H}_4\text{OMe}-p)_3$ ] and methyl viologen, 1909

**MICROSCOPY**  
Deposition and growth of noble metal clusters on graphite, 665  
Preparation, characterisation and properties of Groups VIII and IB metal nanoparticles, 673

Intrazeolite large palladium clusters prepared by organometallic chemical vapour deposition, 765

Stabilizing structure of tertiary amine-protected rhodium colloid dispersions in chloroform, 783

Surface-enhanced resonance-Raman scattering: an informative probe of surfaces, 791

**MILLON'S BASE**  
 $(\text{Hg}_2\text{P}_2)\text{HgBr}_4$ : A phosphorus analogue of the Millon's base salts, 147

**MIXED VALENCE**  
Phase transition in triiodide salts of binuclear ferrocene derivatives having long alkyl chains accompanied by a change in mixed-valence state, 139  
Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters  $[\text{Mo}_4\text{E}_4(\text{edta})_2]^{3-}$  ( $\text{E} = \text{S}$  or  $\text{Se}$ ;  $\text{H}_4\text{edta} = \text{ethylenediaminetetraacetic acid}$ ) and  $[\text{Mo}_4\text{S}_4(\text{H}_2\text{O})_2]^{3+}$ , 363  
 $\text{Na}_4\text{Fe}_4(\text{PO}_4)_6$ : a mixed-valence iron phosphate containing a tetramer of edge-sharing  $\text{FeO}_6$  octahedra, 819  
Mono- and di-nuclear ruthenium(II) complexes of the ambidentate ligand 3,3'-dihydroxy-2,2'-bipyridine: spectroscopic, electrochemical and mixed-valence properties, 879  
Dinuclear alkoxide-bridged ruthenium(II) complexes with Class III mixed-valence states: a structural and spectroelectrochemical study, 2527  
Synthesis, structure and magnetic properties of the first two-dimensional infinite sheet-like mixed-valence manganese(II,III) complex with bridging salicylate and pyridine-2-carboxylate ligands, 2735

**MODEL COMPLEX**  
Structural studies on an iron(III) complex containing (*Z*)-2-(2-aminothiazol-4-yl)-*N*-(2-hydroxyethyl)-2-(hydroxymino)-acetamide, a model compound for a cephalosporin antibiotic Cefdinir, 1967  
Dinuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227  
Formation of axial phenolate–metal bonds in square-pyramidal complexes, 2233  
Crystal structures and superoxide dismutase mimetic activity of  $[\text{CuL}_2(\text{Him})_2]\text{-MeOH}$  and  $[\text{CuL}_2(\text{mim})_2]\text{-H}_2\text{O}$  [ $\text{HL} = 4\text{-amino-N-(thiazol-2-yl)benzenesulfonamide, Him = imidazole, mim = N-methylimidazole}$ ], 2239

Mössbauer and electron paramagnetic resonance studies on some new bis(ligated) porphyrinatoiron(II) complexes with aliphatic amines. Models for cytochromes b, 2361  
Synthesis and reactivity of aryl- and alkyl-palladium(II) complexes with functional phosphines and phosphinoenolate ligands: first analogues of model nickel catalysts, 2903  
Electronic and steric effects in manganese Schiff-base complexes as models for the water oxidation complex in photosystem II. The isolation of manganese(II) and (III) complexes of 3- and 3,5-substituted  $N,N'$ -bis(salicylidene)ethane-1,2-diamine ( $\text{H}_2\text{salen}$ ) ligands, 2935  
Preparations and structures of two *cis,cis*-1,3,5-triaminocyclohexane-based complexes containing hydrogen-bonded solvent molecules, 3337  
Model complexes for the carboxylate–histidine–metal triad systems in metalloenzymes. Synthesis, crystal structures and spectroscopic properties of  $[\text{M}(\text{Him})_2(\text{O}_2\text{CMe})_2]$  ( $\text{M} = \text{Zn}^{II}$  or  $\text{Co}^{II}$ ,  $\text{Him} = \text{imidazole}$ ), 3465  
Redox behaviour of 4Fe-4S ferredoxin model arenethiolate complexes involving specific NH...S hydrogen bonds assisted by a neighbouring phenyl group, 3859  
Electrochemical deprotection of a substrate binding site in  $[\text{Mo}_2(\text{cp})(\mu\text{-SMc})(\mu\text{-Cl})]$  ( $\text{cp} = \eta^3\text{-C}_5\text{H}_5$ ) via chloride-bridge opening. Kinetics of  $\text{MeCN}$  and  $\text{Bu}^+\text{NC}$  binding at this site, 3967  
Models of the active sites of zinc-containing enzymes: the structure of aceto[hydrotris(3-*tert*-butyl-5-methylpyrazol-1-yl)borato]zinc(II), 4283  
Solution studies of copper(II) complexes as models for the active site in galactose oxidase, 4331  
Characterization and superoxide dismutase activity of copper(II) complexes of 6*A*,6*X*-difunctionalized  $\beta$ -cyclodextrins, 4351

**MOLECULAR DYNAMICS**  
Nuclear magnetic resonance studies of molecular dynamics at below-ambient temperatures and crystal structures, 203  
Crystal and molecular structure of dimethyl(*L*-tryptophyl-*L*-alaninato)tin(IV)-methanol (1/1) and Mössbauer spectroscopy studies of lattice dynamics of diorganotin(IV) dipeptide complexes, 1195  
Molecular dynamics in solid bis( $\eta$ -arene)molybdenum complexes studied by solid-state deuterium nuclear magnetic resonance spectroscopy, 2989

**MOLECULAR MECHANICS**  
Solid state and solution structures of two structurally related dicopper complexes with markedly different redox properties, 533  
Tetraaza macrocycles containing pyridine and their copper(II) and nickel(II) complexes: X-ray, spectroscopic, molecular mechanics and molecular orbital studies, 4543

**MOLECULAR ORBITAL**  
Mono- and di-nuclear complexes of molybdenum carbonyl derivatives with pyridine-2-carbaldehyde azine and phosphines: syntheses, structure, spectroscopic and electrochemical characterisation and solvatochromic effects, 4369

**MOLECULAR RECOGNITION**  
Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149  
π Stacking and the co-ordinate bond: sometimes conflicting factors in molecular recognition, as revealed in the structures of metal picrates, 3165

**MOLTEN SALT**  
Gas-phase, liquid and solid complexes in the  $\text{POCl}_3\text{-FeCl}_3$  system, 3405

**MOLYBDENUM**  
Molybdenum(VI) imidodisulfur complexes formed via double sulfur–carbon bond cleavage of dithiocarbamates, 183  
Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters  $[\text{Mo}_4\text{E}_4(\text{edta})_2]^{3-}$  ( $\text{E} = \text{S}$  or  $\text{Se}$ ;  $\text{H}_4\text{edta} = \text{ethylenediaminetetraacetic acid}$ ) and  $[\text{Mo}_4\text{S}_4(\text{H}_2\text{O})_2]^{3+}$ , 363  
Cationic, four-co-ordinate, bis(organotransition metal)bismuth(III) complexes, 455  
Mechanisms of alkyne trimerisation at molybdenum and tungsten centres leading to novel metalacycles: crystal and molecular structures of two isomeric forms of  $[\text{Mo}(\text{C}(\text{CF}_3)_2\text{C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{C}(\text{CO}_2\text{Me})\text{C}(\text{CO}_2\text{Me})(\text{SPr})_2](\eta^3\text{-C}_5\text{H}_5)$ , 999  
Linking metal centres with 1,4-bis(diphenylphosphino)-2,5-difluorobenzene (dpfb): syntheses and molecular structures of  $[\text{Mo}(\text{CO})_4(\mu\text{-dpfb})_2]$  and  $[\text{Mo}(\text{CO})_4]_2(\mu\text{-dpfb})(\mu\text{-dppa})$  ( $\text{dppa} = \text{Ph}_2\text{PC}\equiv\text{CPPh}_2$ ), 1077  
Synthesis, structure and properties of new iron–molybdenum and tungsten fulvalene-bridged heterobimetallic complexes, 1323  
Synthesis of tetrานuclear cobalt–molybdenum butterfly clusters with alkyne ligands: crystal structure of  $[\text{Co}_2\text{Mo}_2(\mu_4\text{-C}_5\text{Me}_2)(\mu\text{-CO})_4(\text{CO})_4(\eta\text{-C}_5\text{H}_5)]$ , 1437  
Mechanism of chelation of phenanthroline derivatives to  $\text{Mo}(\text{CO})_5$  deduced from pulsed photolysis studies in several solvents at high pressure, 1629  
Metal complexes of chiral phosphorylalkoxides: crystal structure of

**MOLYBDENUM (contd)**

- dichlorobis[(1*S*)-2-(diphenylphosphoryl)-1-methylethanolate]-titanium(IV), 1637
- Primary alketyl phosphine complexes of chromium and molybdenum; synthesis and characterisation of tricarbonyl(1,5,9-triphosphacyclododecane)chromium(0), 1801
- The crystal structures of [NMe<sub>4</sub>]<sub>2</sub>[{Me<sub>2</sub>AsO<sub>2</sub>}Mo(O<sub>2</sub>)<sub>2</sub>]<sub>2</sub>, [NMe<sub>4</sub>]<sub>2</sub>[(Ph<sub>2</sub>PO)<sub>2</sub>Mo(O<sub>2</sub>)<sub>2</sub>]<sub>2</sub>, [<sup>15</sup>NBu<sup>n</sup>]<sub>2</sub>[(Ph<sub>2</sub>PO)<sub>2</sub>WO(O<sub>2</sub>)<sub>2</sub>]<sub>2</sub>] and [NH<sub>3</sub>]<sub>2</sub>[(Ph<sub>2</sub>PO)<sub>2</sub>MoO(O<sub>2</sub>)<sub>2</sub>(H<sub>2</sub>O)] and their use as catalytic oxidants, 2039
- Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067
- Crystal structure of bis(tetra-*n*-butylammonium) dodecamolybdate(VI)(2-), [<sup>15</sup>NBu<sup>n</sup>]<sub>2</sub>[SMo<sub>12</sub>O<sub>40</sub>], 2083
- Synthesis and spectroscopic characterization of new mixed-metal, mixed-chalcogenide clusters [Fe<sub>2</sub>W(CO)<sub>10</sub>(μ<sub>2</sub>-Se)(μ<sub>3</sub>-E)] (E = Te or S). Structures of [Fe<sub>2</sub>M(CO)<sub>10</sub>(μ<sub>2</sub>-Se)(μ<sub>3</sub>-E)] (M = W, E = Se or Te; M = Mo, E = Se), 2173
- Synthesis and reactivity of η<sup>3</sup>-γ-lactonyl complexes of molybdenum; crystal structures of [Mo{η<sup>3</sup>-OC(O)CHCHCH}(CO)(η-C<sub>5</sub>Me<sub>5</sub>)], [Mo{η<sup>2</sup>-PhCH<sub>2</sub>NHCHCH=CH(CO<sub>2</sub>H)}(CO)(η<sup>3</sup>-C<sub>5</sub>H<sub>5</sub>)] and [Mo{η<sup>3</sup>-OC(O)CHCHCHCO}(NCMe)(CO)(η-C<sub>5</sub>H<sub>5</sub>)], 2299
- Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of [Mo<sub>2</sub>Ru<sub>2</sub>(μ<sub>3</sub>-S)<sub>2</sub>(μ-SPr)<sub>2</sub>(CO)<sub>4</sub>(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>], 2403
- Synthesis of η-arene derivatives of chromium and molybdenum containing Lewis-acid boron substituents, 2467
- Synthesis, crystal structure and non-linear optical properties of two new cluster compounds, [MoCu<sub>2</sub>OS<sub>2</sub>(PPh<sub>3</sub>)<sub>3</sub>(S<sub>2</sub>P(OBu)<sub>2</sub>)<sub>2</sub>] and [MoAg<sub>3</sub>S<sub>4</sub>(PPh<sub>3</sub>)<sub>3</sub>(S<sub>2</sub>P(OBu)<sub>2</sub>)<sub>2</sub>], 2617
- Preparation and properties of the corner-shared double cube [Mo<sub>6</sub>Pb<sub>8</sub>(H<sub>2</sub>O)<sub>16</sub>]<sup>4+</sup> as a derivative of [Mo<sub>6</sub>S<sub>4</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>4+</sup>, 2623
- Reaction kinetics and mechanism of formation of [H<sub>4</sub>Co<sub>2</sub>Mo<sub>10</sub>O<sub>38</sub>]<sup>+</sup> by peroxomonosulfate oxidation of Co<sup>II</sup> in the presence of molybdate, 2629
- Synthesis, acid hydrolysis and formation of the [(H<sub>3</sub>N)<sub>5</sub>CoMoO<sub>3</sub>]<sup>+</sup> ion in aqueous solution, 2637
- Fourier-transform infrared study of short-lived highly reduced dithiolene complexes by potential-modulation spectro-electrochemical techniques, 2945
- Molecular dynamics in solid bis(η-arene)molybdenum complexes studied by solid-state deuterium nuclear magnetic resonance spectroscopy, 2989
- Synthesis of heteronuclear compounds by use of [Ti(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>PPh<sub>2</sub>)<sub>2</sub>(SR)<sub>2</sub>] (R = Et or Ph) as metalloligands. Crystal structures of [Mo(CO)<sub>2</sub>]<sub>2</sub>[μ-(Ph<sub>2</sub>PC<sub>2</sub>H<sub>4</sub>)<sub>2</sub>Ti(SPh)<sub>2</sub>] and [(OC)<sub>4</sub>Mo(μ-Ph<sub>2</sub>PC<sub>2</sub>H<sub>4</sub>)<sub>2</sub>Ti(μ-SPh)<sub>2</sub>Pt(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>], 3201
- Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of [Mo<sub>3</sub>Ru<sub>2</sub>(μ<sub>3</sub>-S)<sub>2</sub>(μ-SPr)<sub>2</sub>(CO)<sub>4</sub>(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>], 3341
- Molybdenum-mediated cycloccylation reactions involving prop-2-ynyl, alkyne and carbon monoxide ligands, 3379
- Reaction of the η<sup>2</sup>(4e)-donor alkyne complexes [Mo{η<sup>2</sup>(4e)-R<sup>1</sup>C<sub>2</sub>R<sup>2</sup>}{P(OMe)<sub>3</sub>}(η-C<sub>5</sub>H<sub>5</sub>)] (R<sup>1</sup> = R<sup>2</sup> = Ph or Me; R<sup>1</sup> = Me, R<sup>2</sup> = Ph) with the Grignard reagents MgR<sup>3</sup>(X) (R<sup>3</sup> = Me, Et, CH<sub>2</sub>Ph, CH<sub>2</sub>CH=CH<sub>2</sub> or CH=CH<sub>2</sub>) and CH<sub>2</sub>(Mgl)<sub>2</sub>, 3387
- The reaction of HCl with [MoH<sub>3</sub>(C<sub>6</sub>C<sub>5</sub>B<sub>5</sub>)<sub>2</sub>(Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPH<sub>2</sub>)<sub>2</sub>]: enforced protonation at the metal gives an alkyne, 3397
- Synthesis of heteropolymeric complexes with 1,1,1-tris(diphenylphosphinomethyl)ethane. Crystal structure of [(OC)<sub>4</sub>Mo<sub>2</sub>(Ph<sub>2</sub>PCH<sub>2</sub>)<sub>3</sub>CM<sub>2</sub>(CH<sub>2</sub>PPH<sub>2</sub>)<sub>2</sub>][AlCl<sub>4</sub>], 3603
- η<sup>7</sup> → η<sup>3</sup> Hapticity interconversion in cycloheptatrienyl complexes of molybdenum and tungsten. Crystal structures of [Mo(NCS)(CO)<sub>2</sub>C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>](η<sup>1</sup>-C<sub>7</sub>H<sub>7</sub>) and [MoCl(CO)<sub>2</sub>Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPH<sub>2</sub>](η<sup>1</sup>-C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>4</sub>F-4)], 3629
- Reactivity studies of η<sup>2</sup>-acyl complexes of molybdenum. Kinetics of η<sup>2</sup>-acyl to η<sup>2</sup>-iminoacyl isomerization in their reactions with isocyanides, 3687
- Cyclic oxacarbenes complexes of the cycloheptatrienylmolybdenum auxiliary MoL<sub>2</sub>(η-C<sub>5</sub>H<sub>5</sub>), L = CO or P-donor ligand: isolation and subsequent cyclisation of a hydroxvinylidene intermediate, 3893
- Dismantling a dinuclear metallacyclopentadiene: alkyne scission in cobalt–molybdenum clusters, 3909
- Kinetics and mechanism of ligand substitution in [Cr(π-ligand)-(CO)<sub>3</sub>] complexes (ligand = naphthalene, pyrene, thiophene, 2,6-dimethylpyridine or cycloheptatriene) and of *fac/mer* isomerization in [M(CO)<sub>3</sub>L]<sub>2</sub> (M = Cr, Mo or W; L = phosphite, phosphine or isocyanide), 3959
- Electrochemical deprotection of a substrate binding site in [Mo<sub>2</sub>(cp)<sub>2</sub>(μ-SMe)<sub>3</sub>(μ-Cl)] (cp = η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>) via chloride-bridge opening. Kinetics of MeCN and Bu<sup>4</sup>N<sup>+</sup> binding at this site, 3967
- Multimetalloc complexes of molybdenum(II) and tungsten(II) derived from [WI<sub>2</sub>(CO)[PhP(CH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)<sub>2</sub>P,P'](η<sup>2</sup>-RC<sub>2</sub>R)] (R = Me or Ph). Crystal structures of [WI<sub>2</sub>(CO)[PhP(CH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)<sub>2</sub>P,P'](η<sup>2</sup>-MeC<sub>2</sub>R)] (R = Me or Ph), 3995

**1,4,7-Trithiacyclononane ([<sup>9</sup>JaneS<sub>3</sub>]) and 2,5,8-trithia[9]orthocyclophane complexes of molybdenum(II) and tungsten(II): crystal structures of [WI<sub>2</sub>(CO)<sub>2</sub>([<sup>9</sup>JaneS<sub>3</sub>])[BPh<sub>4</sub>]<sub>2</sub> and [WI<sub>2</sub>(CO)<sub>2</sub>(NCMe)(PPh<sub>3</sub>)], 4003**

**Synthesis and nuclear magnetic resonance studies of molybdenum and tungsten thiolate complexes, 4011**

**Preparation of heterometallic single cubes [W<sub>x</sub>MS<sub>y</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>n+</sup> (M = In, Ge or Sn) and the first corner-shared double cubes [W<sub>x</sub>Sn<sub>y</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>n+</sup> and [W<sub>x</sub>Mo<sub>y</sub>Sn<sub>z</sub>(H<sub>2</sub>O)<sub>18</sub>]<sup>n+</sup> as derivatives of [W<sub>x</sub>S<sub>y</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>n+</sup>, 4089**

**Camphor-based β-hydroxyphosphoryl ligands and their complexes of the type [MoO(O<sub>2</sub>)<sub>2</sub>L(H<sub>2</sub>O)], 4149**

**Bent *versus* linear imido ligands in five-co-ordinate molybdenum complexes, 4197**

**Some new dipyridyl and diphenol bridging ligands containing oligothienyl spacers, and their dinuclear molybdenum complexes: electrochemical, spectroscopic and luminescence properties, 4257**

**Preparation and crystal structure of an oxoimido complex of molybdenum containing the 2,4,6-triphenylphenylimide ligand, 4265**

**Mono- and di-nuclear complexes of molybdenum carbonyl derivatives with pyridine-2-carbaldehyde azine and phosphines: syntheses, structure, spectroscopic and electrochemical characterisation and solvatochromic effects, 4369**

**Syntheses and electrochemistry of bimetallic complexes containing cyclohexanediolate or cyclopentanediolate bridges, 4401**

**Density-functional study of the ground-and excited-spin states of [M<sub>2</sub>Cl]<sup>n-</sup> (M = Mo or W) face-shared dimers: consequences for structural variation in A<sub>2</sub>M<sub>2</sub>Cl<sub>3</sub> complexes, 4485**

**Bridged bis(imido)molybdenum complexes: isolobal analogues of *ansa*-zirconocenes and bizirconocenes, 4513**

**Synthesis structure and reactivity of η<sup>4</sup>(5e)-butadienyl substituted molybdenum complexes, 4517**

**Molybdenum(III) chloride-tetrahydrothiophene (ht) complexes in the catalytic polymerization and cyclotrimerization of alkynes: structures and reactivities of the possible intermediates [MoCl<sub>3</sub>(ht)<sub>2</sub>(PhC≡CR)] (R = Me or Et), 4533**

**MOLYBDENUM-95**

**Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters [Mo<sub>6</sub>E<sub>4</sub>(edta)]<sup>3-</sup> (E = S or Se; H<sub>4</sub>edta = ethylenediaminetetraacetic acid) and [Mo<sub>6</sub>S<sub>4</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>4+</sup>, 363**

**MÖSSBAUER**

**Phase transition in triiodide salts of binuclear ferrocene derivatives having long alkyl chains accompanied by a change in mixed-valence state, 139**

**Na<sub>2</sub>Fe<sub>4</sub>(PO<sub>4</sub>)<sub>6</sub>: a mixed-valence iron phosphate containing a tetramer of edge-sharing FeO<sub>6</sub> octahedra, 819**

**Synthesis, characterisation, Mössbauer spectra, and structures of some trinuclear iron–tin clusters, 1145**

**Crystal and molecular structure of dimethyl(l-tryptophyl-L-alanato)tin(IV)-methanol (1/1) and Mössbauer spectroscopy studies of lattice dynamics of diorganotin(IV) dipeptide complexes, 1195**

**Comparative study of Mössbauer spectra of iron(III) complexes of *para*-substituted tetraphenylporphyrins. Electronic effects of substituents and axial ligands, 1519**

**Structural studies on an iron(III) complex containing (Z)-2-(2-aminothiazol-4-yl)-N-(2-hydroxyethyl)-2-(hydroxymino)-acetamide, a model compound for a cephalosporin antibiotic Cefdinir, 1967**

**Mössbauer and electron paramagnetic resonance studies on some new bis(ligated) porphyrinatoiron(III) complexes with aliphatic amines. Models for cytochromes b, 2361**

**Trichloro-, mono-, di- and tri-organo-tin(IV) derivatives of hydrotetrakis(4-methylpyrazol-1-yl)borates, 2475**

**NANOPARTICLES**

**Preparation, characterisation and properties of Groups VIII and IB metal nanoparticles, 673**

**NAPHTHALOCYANINATE**

**Crystal structures of nickel, copper and zinc naphthalocyaninates, 4303**

**NAPHTHYL**

**Synthesis and crystal structure of a dinuclear rhodium complex. Catalytic activity of mono- and di-nuclear rhodium phosphate complexes in hydroformylation, 3561**

**NAPHTHYRIDINE**

**Control of the co-ordination mode of 1,8-naphthyridine ligated to ruthenium(II) bipyridine complexes, 1405**

**Dinuclear palladium(I) complexes with isocyanide and N-donor bidentate ligands, 3059**

**NEW MATERIALS**

**New materials by sol-gel processing: design at the molecular level, 3343**

**NICKEL**

**Crystal structure and spin-doublet electron spin resonance of a magnetically coupled di(μ-phenoxo)-copper(II)nickel(II) complex, 25**

**NICKEL (contd)**

Preparation of bis(phosphine)bis(sel.-palladium(II) and -platinum(II) complexes: crystal structure analysis, 79

Facile one-step synthesis of the cobalt(III) ammine complexes  $[M_3(AsMe_2)_2]$  ( $M = Co$  or  $Ni$ ) directly from the powdered elemental metals, 157

Phosphine-participated formation and crystal structures of nickel complexes with 2-sulfanylphenol and phosphine ligands, 177

Is nickel dibromide bent in a nitrogen matrix? A combined simultaneous Fourier-transform infrared and X-ray absorption fine structure matrix isolation study, 249

Asymmetric functionalisation of aza macrocycles. Syntheses, crystal structures and electrochemistry of  $[Ni(Bz[9]aneN_3)_2][PF_6]$  and  $[Pd(Bz[9]aneN_3)_2][PF_6]$ , 2MeCN ( $Bz[9]aneN_3 = 1\text{-benzyl-}1,4,7\text{-triazacyclononane}$ ), 525

Structure and magnetic behaviour of the first singly bridged nickel cyanate chain and a new dinuclear complex: an approximation to the superexchange mechanism for the nickel pseudohalide system, 1013

Structural variations in nickel(II) and copper(II)  $MN_4$  Schiff-base complexes with deprotonated tetradeinate  $N,N'$ -bis(5-amino-pyrazol-4-ylmethylene)poly(methylenediamine) ligands, 1215

Electronic structure of thiaporphyrins: an X-ray photoelectron spectroscopic study, 1255

Synthesis and characterisation of a novel nickel trihydride. Crystal structure of  $[(Ni(dippe)_2H_3)[BPh_4]]$  (dippe =  $Pr_2PCH_2CH_2PPr_2$ ), 1305

Facile acid-promoted decarboxylation of a macrocyclic complex. Crystal structure of  $[6,14\text{-diacetyl-}7,13\text{-dimethyl-}1,4,8,12\text{-tetraazacyclopentadeca-}1(15),5,7,13\text{-tetraen-2-olato}]nickel(II)$ , 1513

Heteronuclear Pt-Pd, Pt<sub>2</sub>Cu and Pt<sub>2</sub>Ni complexes with bridging acetamido: crystal structures and spectroscopic studies, 1823

Structural, spectroscopic and angular-overlap studies of tripod pyridine ligands with nickel(II) and zinc(II), 1845

Nickel complexes of 1,2-bis(diisopropylphosphino)ethane with sulfur-containing ligands, 1935

Synthesis, structure and characterization of mixed cyclopentadienyl-dithiole metal complexes,  $[Co(\eta-C_5H_5)_2[Ni(C_5S_2)_2]]$ ,  $[Ni(C_5S_2)_2]_2$  2MeCN and  $[Ni(\eta-C_5H_5)(C_5S_2)]_2$ , 2261

Synthesis and crystal structure of  $[Ni^{\text{II}}(Ph_2P(Y)C(S)NPh_2)_2]$  and  $[Ni^{\text{II}}(Ph_2P(Y)C(S)NPh_2)_2]$  ( $Y = S$  or  $Se$ ), 2269

On the electronic structures and spectra of  $NiCl_2$  and  $CuCl_2$ , 2601

Electron transfer from thiosulfate to nickel(IV) oxime imine complexes in aqueous solution, 2645

Synthesis and co-ordination of 1,4,7,10-tetraazacyclododecanes disubstituted with imidazole and pyrazole, 2679

Synthesis and solution complexation behaviour of tetradentate diamines with hard phosphinate donors, 2693

*Ab initio* X-ray powder diffraction structural characterization of co-ordination compounds: polymeric  $[(MX_2(\text{bipy}))_n]$  complexes ( $M = Ni$  or  $Cu$ ;  $X = Cl$  or  $Br$ ; bipy = 4,4'-bipyridine), 2739

Oxidative dehydrogenation of a saturated tetraaza macrocyclic nickel(II) complex: selective formation of nickel(II) complexes containing one or two imino groups, 2809

Magnetic and optical characterization of one-dimensional isostructural  $\sigma$ -bonded tetracyanoquinodimethano complexes of nickel(II) and copper(II), 3015

Controlled synthesis and reversible oxidation of a thiolate-bridged macrocyclic dinickel(II) complex, 3031

Comparative study of the interaction of 'lop-sided' 14- to 17-membered tetraaza macrocycles containing fused dibenzocoronands with nickel(II), 3045

Preparations and structures of two *cis,cis*-1,3,5-triaminocyclohexane-based complexes containing hydrogen-bonded solvent molecules, 3337

Iron catalysis of the reduction of oxime-bound nickel(IV) by hydroxylamine, 3417

Nickel(II)  $N_2O_2$  Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437

Synthesis and characterization of nickel-group bis(dithiocroconate) complexes and dicyanomethylene-substituted analogues, 3507

Phenyl nickel complexes with a chelating P,N ligand. Structures of  $Ph_3P=CHC(=NPh)Ph$  and  $[NiPh\{Ph_2PCH=C(=NPh)Ph\}-\{Ph_2P=CHC(=NPh)Ph-N\}]$ , 3571

A new class of mixed aza-thioether crown containing a 1,10-phenanthroline sub-unit, 3705

Uncapped and polar capped prisms of cobalt and nickel, 3745

Synthesis, structure and characterisation of  $[Ni(\text{bipy})_3][NaAl(\text{ox})_3]$  (bipy = 2,2'-bipyridine, ox = oxalate), 3985

Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes via sulfenamido rearrangement, 4063

Macropolyhedral boron-containing cluster chemistry: nineteen-

vertex  $[(PPh_3)NiS_2B_{16}H_{12}(PPh_3)]$  and eighteen-vertex  $S_2B_{16}H_{14}(PPh_3)$ , 4155

Amide nitrogen co-ordination of  $Co^{II}$  and  $Ni^{II}$  in ternary 2,2'-bipyridine-containing systems. A solution and solid-state study, 4201

Macrocyclic dimeric vanadium(IV) and heterodinuclear vanadium(IV)-nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

Crystal structures of nickel, copper and zinc naphthalocyaninates, 4303

Tetraaza macrocycles containing pyridine and their copper(II) and nickel(II) complexes: X-ray, spectroscopic, molecular mechanics and molecular orbital studies, 4543

The electronic structure of 'linear' nickel oxides, 4555

**NIOBIUM**

Preparation and characterization of dialkylcarbamato derivatives of niobium and tantalum, 311

Characterisation of a cationic tri niobium aqua ion cluster and related studies, 703

Synthesis and structural characterization of organometallic niobium(IV) amido complexes, 1979

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiolo d<sup>4</sup> and d<sup>6</sup> niobium complexes, 4093

Syntheses and crystal structures of phenyl(2-pyridyl)amido complexes of zirconium(IV), niobium(V) and tantalum(V), 4345

**NITRATION**

Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237

**NITRENE**

Synthesis, characterization and crystal structures of a series of ruthenium μ<sub>4</sub>-nitrene carbonyl clusters, 1707

**NITRIC ACID**

Kinetics and equilibria in the nitric acid-nitrous acid-sodium thiocyanate system, 1915

**NITRIDE**

Synthesis and crystal structures of the new ternary nitrides  $Sr_2CrN_3$  and  $Ba_2CrN_3$ , 1

Characterization, redox properties and structures of the iron nitridocarbonyl clusters  $[Fe_4N(CO)]_1\{PPh(C_6H_5FeC_6H_5)_2\}_1^-$ ,  $[Fe_4N(CO)]_1^-$  and  $[Fe_6H(N)(CO)]_1^-$ , 747

Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(V) diphosphine complexes and related nitridorhenium(V) organometallics; crystal structure of  $[Re^{\text{V}}(N\equiv C\text{Bu})(PPh_3)]$ , 1125

Reactions of  $[Ru(bipy)(CO)_2Cl_2]$  in aqueous HX and HX-HNO<sub>3</sub> solutions ( $X = F$ , Br or I; bipy = 2,2'-bipyridine), 1927

Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067

Co-ordination chemistry of S-methyl 2-methylthiocarbazate and formation of  $[M=N]^{2+}$  ( $M = Tc$  or  $Re$ ) species, 3105

Dimetallic gold(I) and platinum(II) complexes containing a trioxoosmium(VIII) moiety. Crystal structures of  $[Au(PPh_3)(NO_3)_2]$  and  $cis-[Pt(PMe_2)_2(NO_3)_2]$ , 3153

Preparation and crystal structure of  $[(AlBr_3)(Se_2N_2)]$ , the first example of a main-group element adduct of diselenium dinitride, 4029

**NITRILE**

Formation of N-imidoylimidatoruthenium(II) complexes via ruthenium-promoted hydration of nitriles, 291

Nitrile hydration catalysed by palladium(II) complexes, 3677

**NITRILOTRIACETATE**

Kinetics of ternary complex formation with the (nitrilotriacetato)-zinc(II) complex: the effect of buffers and pH, 867

**NITRITE**

New mixed carbonyl-nitro and -nitrito complexes of manganese and rhenium, 1419

Synthesis and characterization of triosmium clusters containing a nitrite ligand; crystal and molecular structures of  $[N(PPh_3)_2]^-[Os_3(CO)_10(\mu-\eta^2-\text{NO}_2)]$  and  $[Os_3(\mu-\text{H})(CO)_10(\mu-\eta^2-\text{NO}_2)]$ , 2177

Kinetics of oxidation of nitrogen(III) by an oxo-bridged dinuclear manganese(III,IV) complex in weakly acidic media, 3951

Nitrate- and nitrite-ligated 3,6-bis(imidazolyl)pyridazine-bridged dinuclear copper(II) cations with copper-copper separations similar to that in *Achromobacter cycloclastes* nitrite reductase, 4295

**NITROGEN**

Reaction of  $(Me_3SiNSN)_2S$  with palladium complexes; crystal structures of  $[PPh_3]_2[Pd_2Br_2(S_2N_2)]$  and  $[PPh_3]_2[Pd_2Br_2(S_2N_2)_2]$ , 53

An improved synthesis of  $SF_5(CN)$  and its cycloaddition reaction with  $SNSAsF_6$ . Crystal structure of  $F_5SCNSNSAsF_6$  and electron spin resonance spectrum of  $F_5SCNSNS^*$ , 383

Preparation and characterization of 1,3,2-dithiazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with  $SNS^+$ , 1997

Influence of mixed sulfur-nitrogen oxides on the redox kinetics of iron ions in aqueous solution, 2135

Small-molecule model phosphazenes with *para*-substituted phenoxy side groups: synthesis, crystal structures and comparisons with corresponding high polymers, 3549

**NITROGEN (contd)**

Kinetics and mechanism of reduction of (*trans*-cyclohexane-1,2-diyldinitrilotriacetato)manganese(II) by HONH(SO<sub>3</sub>)<sup>-</sup> and HON(SO<sub>3</sub>)<sub>2</sub><sup>2-</sup>, 4393

**NITROGEN-14**

Preparation, characterization and *ab initio* computation of the first binary antimony azide, Sb(N<sub>3</sub>)<sub>3</sub>, 2985

Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237

**NITROGEN-15**

9-Methyladenine complexes of platinum(II) stabilized by trimethylphosphine: use of <sup>15</sup>N nuclear magnetic resonance spectroscopy to assign the co-ordination site, 299

**NITROSALICYLATE**

Kinetics of ternary complex formation with the (nitrilotriacetato)-zinc(II) complex: the effect of buffers and pH, 867

**NITROSOBENZENE**

Synthesis, characterization and molecular structure of a triruthenium carbonyl cluster containing both phenylimido and nitrosobenzene ligands, 3911

**NITROSYL**

Synthesis, characterization and crystal structures of a series of ruthenium  $\mu$ -nitrene carbonyl clusters, 1707

Reactions of [Ru(bipy)(CO)<sub>2</sub>Cl]<sub>2</sub> in aqueous HX and HX-HNO<sub>3</sub> solutions (X = F, Br or I; bipy = 2,2'-bipyridine), 1927

Paramagnetic tetrahedral dinitrosyliron complexes containing redox-active cyanomanganese ligands, 1959

Synthesis of the 17-electron cations [FeL(L')<sup>2</sup>(NO)]<sup>+</sup> (L, L' = PPh<sub>3</sub>, OPPh<sub>3</sub>): structure and bonding in four-co-ordinate metal dinitrosyls, and implications for the identity of paramagnetic iron dinitrosyl complex catalysts, 3491

Axial ligand substitutions in *trans*-bis[1,2-phenylenebis-(dimethylarsine)] complexes of ruthenium(II), 3917

Syntheses and electrochemistry of bimetallic complexes containing cyclohexanediolate or cyclopentanediolate bridges, 4401

**NITROUS ACID**

Kinetics and equilibria in the nitric acid-nitrous acid-sodium thiocyanate system, 1915

**NITRYL**

Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237

**NLO PROPERTIES**

Synthesis, crystal structure and non-linear optical properties of two new cluster compounds, [MoCu<sub>2</sub>OS<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>(S<sub>2</sub>P(OBu)<sub>2</sub>)<sub>2</sub>] and [MoAg<sub>2</sub>S<sub>4</sub>(PPh<sub>3</sub>)<sub>3</sub>(S<sub>2</sub>P(OBu)<sub>2</sub>)<sub>2</sub>], 2617

**NMR**

Extent of hydration of octadentate lanthanide complexes incorporating phosphinate donors: solution relaxometry and luminescence studies, 17

Cadmium-113 nuclear magnetic resonance studies of cadmium(II)-carboxylate complexes in aqueous solution, 75

Preparation of bis(phosphine)bis(selenocarboxylato)-nickel(II), -palladium(II) and -platinum(II) complexes and their crystal structure analysis, 79

Nuclear magnetic resonance and mass spectra of organomercury hydrides and deuterides, 153

Nuclear magnetic resonance studies of molecular dynamics at below-ambient temperatures and crystal structures, 203

9-Methyladenine complexes of platinum(II) stabilized by trimethylphosphine: use of <sup>15</sup>N nuclear magnetic resonance spectroscopy to assign the co-ordination site, 299

Synthesis, characterisation and molecular structures of the *cis*- and *pseudocis*-heptamethylindenyl carbahodaboranes 1-Ph-3-(*n*-C<sub>4</sub>Me<sub>3</sub>)-3,1,2-*cis*-RhC<sub>2</sub>B<sub>9</sub>H<sub>10</sub> and 1,2-Ph-3-(*n*-C<sub>4</sub>Me<sub>3</sub>)-3,1,2-*pseudocis*-RhC<sub>2</sub>B<sub>9</sub>H<sub>9</sub>. Experimental assignment of the <sup>11</sup>B NMR spectrum of a *pseudocis* carbametallaborane, 335

Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters [Mo<sub>4</sub>E<sub>4</sub>(edta)<sub>2</sub>]<sup>3-</sup> (E = S or Se; Edta = ethylenediaminetetraacetic acid) and [Mo<sub>5</sub>S<sub>4</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>3+</sup>, 363

Structure, characterisation and dynamics of copper(I) complexes of 2,6-bis(3,5-dimethylpyrazol-1-yl-methyl)pyridine, 371

The first crystal structures of mixed chalcogen derivatives SnR<sub>2</sub>[OPh<sub>2</sub>(SPPh<sub>2</sub>N)]<sub>2</sub> (R = Me or Ph), 391

Synthesis and characterization of the centred icosahedral cluster series [Au,M<sup>II</sup><sub>4</sub>Cl<sub>4</sub>(PMePh<sub>2</sub>)<sub>6</sub>][C<sub>2</sub>B<sub>9</sub>H<sub>12</sub>], where M<sup>II</sup> = Au, Ag or Cu, 491

Cyclopentadienyl metal teflate (OTeF<sub>5</sub>) complexes, 509

A proton nuclear magnetic resonance study of the interaction of zinc(II) with the antitumour drug streptonigrin, 549

Multinuclear solid-state nuclear magnetic resonance studies on transition-metal clusters containing hydrides, 625

Dynamic disorder in crystalline [Fe<sub>2</sub>Os(CO)<sub>12</sub>] and direct evidence for rotation of the Fe<sub>2</sub>Os triangle in the solid state from variable-temperature X-ray diffraction and <sup>13</sup>C MAS NMR studies, 631

Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds [MM'<sup>II</sup>Ru<sub>4</sub>H<sub>2</sub>( $\mu$ -dpdf)(CO)<sub>12</sub>] [M = M' = Cu, Ag or Au; M = Cu, M' = Au; dpdf = Fe(*n*-C<sub>4</sub>H<sub>9</sub>PPh<sub>2</sub>)<sub>2</sub>] and the crystal structures of [MM'<sup>II</sup>Ru<sub>4</sub>H<sub>2</sub>( $\mu$ -dpdf)(CO)<sub>12</sub>] (M = Cu or Au, M' = Au), 643

Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametalloc derivatives, 681

Characterisation of a cationic triosmium aqua ion cluster and related studies, 703

Synthesis of the new binucleating compound pyrazin-2-yl 2-pyridyl sulfide for stepwise or direct approach to asymmetric binuclear ruthenium(II) complexes, 885

Linking and fragmentation of alkynes at a triruthenium centre, 975

Unexpected substitution reactions of bis(phosphine)platinum ethene complexes, 1039

Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of [TiCl<sub>4</sub>L], [FeL<sub>2</sub>(O<sub>2</sub>SCF<sub>3</sub>)<sub>2</sub>] and [Mo(CO)<sub>2</sub>L]<sub>2</sub> [L = PhCH<sub>2</sub>P(CH<sub>2</sub>CH<sub>2</sub>OEt)<sub>2</sub>], 1105

Complexation properties of macrocyclic polyoxadiazaphosphonates, 1113

On the nature of the interaction between potassium ions and bis(crown ether) derivatives as revealed by low-temperature carbon-13 nuclear magnetic resonance spectroscopy, 1455

Silicon-29 and oxygen-17 relaxation in H<sub>8</sub>Si<sub>2</sub>O<sub>12</sub> in solution, 1597

Crystal structure and solution-state study of K[Al(mal)(H<sub>2</sub>O)<sub>2</sub>]<sup>2-</sup> 2H<sub>2</sub>O (H<sub>2</sub>mal = malonic acid), 1601

Ten-vertex polyhedral monoheteroborane chemistry: syntheses, molecular structures and nuclear magnetic resonance characterization of some 9-substituted 6-aza- and 6-thia-*arachno*-decaboranes, 1741

The interaction between cytochrome c and *trans*-[PtCl<sub>2</sub>(NH<sub>3</sub>)<sub>2</sub>], 2223

2Hg( $\mu$ -SPh)<sub>2</sub>Hg-(SPh)<sub>2</sub>]<sup>2-</sup> ion, 2381

Hydrogen-bond recognition of nucleosides by oligopyridine ligands and their ruthenium complexes, 2389

Solid-state carbon-13 nuclear magnetic resonance investigations of bismuth citrate complexes and crystal structure of Na<sub>2</sub>[Bi(cit).<sub>2</sub>]-7H<sub>2</sub>O, 2417

Spectroscopic and structural studies on 1:2 adducts of silver(I) salts with tricyclohexylphosphine, 2449

Spectroscopic and structural studies on 1:1 adducts of silver(I) salts with tricyclohexylphosphine, 2459

Trichloro-, mono-, di- and tri-organo-tin(IV) derivatives of hydridotris(4-methylpyrazol-1-yl)borates, 2475

Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on M<sub>2</sub>(OPr)<sub>6</sub><sup>-</sup> (M = Sn, Zr or Ti) anions: crystal and molecular structures of [CdI[Sn<sub>2</sub>(OPr)<sub>6</sub>]] and [SnI[Zr<sub>2</sub>(OPr)<sub>6</sub>]<sub>2</sub>]<sub>2</sub>, 2485

Preparation, structural and spectroscopic characterisation of the salts M<sub>2</sub>X<sub>3</sub>AF<sub>6</sub> (A = As or Sb, M = S or Se, X = Cl or Br) containing the novel sulfur- and selenium-halogen cations (X<sub>2</sub>MMX)<sup>+</sup>, 2553

Alcohol-alkoxyde exchange between Sn(OBu)<sub>4</sub> and HOBu<sup>+</sup> in co-ordinating and non-co-ordinating solvents, 2659

Aqueous tungstovanadate equilibria, 2705

Structural and two-dimensional phosphorus-31 nuclear magnetic resonance studies of derivatives from (RP)<sub>2</sub> (R = Et or Ph) and activated triosmium clusters [Os<sub>3</sub>(CO)<sub>10</sub>X<sub>2</sub>] (X =  $\mu$ -H or NCMe), 2773

New rhodium complexes with phosphinite PPh<sub>3</sub>OR or phosphonite PPh(OR)<sub>2</sub> (R = Me, Et or Pr) ligands: synthesis and protonation of various polyhydrides, 2779

Stabilization of monofunctional platinum-nucleotide adducts: reactions of N-acetyl-L-methionine complexes with guanosine 5'-monophosphate and guanyl(3'-5')guanosine, 2867

Syntheses and characterization of binuclear Rh<sub>2</sub>, Ir<sub>2</sub> and RhIr complexes containing dimethyl phosphonate and pyrazolate bridging ligands, 2877

Chelate-stabilized alkoxopalladium(II) complexes with chiral phosphine-substituted carbohydrate ligands, 2911

Synthesis, platinum-195 nuclear magnetic resonance spectroscopic and extended X-ray absorption fine structure studies on platinum(II) and -(IV) thioether macrocyclic complexes, 2979

Preparation, characterization and *ab initio* computation of the first binary antimony azide, Sb(N<sub>3</sub>)<sub>3</sub>, 2985

Molecular dynamics in solid bis(*η*-arene)molybdenum complexes studied by solid-state deuterium nuclear magnetic resonance spectroscopy, 2989

Synthesis and solution fluxionality of rhodium(I) carbonyl complexes of 2,4,6-tris(pyrazolyl)pyrimidines (L), [RhX(CO)<sub>3</sub>L] (X = Cl, Br or I). Isolation and identification of the dinuclear complex [{ReBr(CO)<sub>3</sub>}<sub>2</sub>L], 3065

Eight-membered chelate-ring complexes of cobalt(III)-polyamine complexes of aminopolyphosphonates in aqueous solution, 3077

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of PPh<sub>3</sub> with gold(I) halides; crystal structure of [AuBr(PMe<sub>3</sub>)<sub>3</sub>], 3121

Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of [TiCl<sub>4</sub>L], [FeL<sub>2</sub>(O<sub>2</sub>SCF<sub>3</sub>)<sub>2</sub>]

**NMR (contd)**  
and  $[\text{Mo}(\text{CO})_3\text{L}_2]$  [ $\text{L} = \text{PhCH}_2\text{P}(\text{CH}_2\text{CH}_2\text{OEt})_2$ ] (1995, 1105), 3163  
Synthesis, characterisation and substitution reactions of gold(III) C,N-chelates, 3185  
A bis(cyclopalladated) tetrานuclear derivative of methyl ferrocenyl ketone azine:  $[\text{Pd}[(\eta^3-\text{C}_5\text{H}_5)\text{Fe}(\eta^3-\text{C}_5\text{H}_5)\text{CMe}=\text{N}]\text{Cl}(\text{PPh}_3)_2]$ , 3195  
Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237  
Synthesis, characterization and crystal structure of cyclic vanadate complexes with monosaccharide derivatives having a free adjacent diol system, 3257  
Conformational polymorphism and fluxional behaviour of  $\text{M}(\text{PR}_3)_2$  units in *cis*-twelve-atom metallaheteroboranes with  $\text{MX}_2\text{B}_9$  ( $\text{X} = \text{C}$  or  $\text{As}$ ) and  $\text{MZB}_{10}$  cages ( $\text{Z} = \text{S}$ ,  $\text{Se}$  or  $\text{Te}$ ), 3323  
X-Ray diffraction and solid-state nuclear magnetic resonance study of a silicate containing two different nitrogenous cations, 3349  
Oxygen and vanadium exchange processes in linear vanadate oligomers, 3357  
Layered, network and chain structures of cadmium(II) malonate: crystal structure and cadmium-113 nuclear magnetic resonance studies, 3363  
Synthesis and solution fluxionality of rhodium(I) carbonyl complexes of 2,4,6-tris(pyrazol-1-yl)-1,3,5-triazines ( $\text{L}$ ),  $[\text{ReX}(\text{CO})_3\text{L}]$  ( $\text{X} = \text{Cl}$ ,  $\text{Br}$  or  $\text{I}$ ): characterization of  $[\text{ReX}(\text{CO})_3\text{L}_2]$  ( $\text{X} = \text{Cl}$  or  $\text{Br}$ ), 3371  
*meso*-Substituted octabromoporphyrins: synthesis, spectroscopy, electrochemistry and electronic structure, 3429  
Zinc(II) complexes of phosphonic acid analogues of glutamic acid, 3455  
Synthesis and nuclear magnetic resonance investigation of 1-phenylpropane-1,2-dione 2-oxime complexes of trimethylplatinum(IV), 3543  
Synthesis, structural characterisation and nuclear magnetic resonance studies of cobalt complexes of pyridonate ligands, 3575  
Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating  $\text{O}_4\text{N}_2^-$ ,  $\text{O}_2\text{S}_2\text{N}_2^-$  and  $\text{S}_2\text{N}_2^-$ -donor sets, 3591  
 $\eta^3 \rightarrow \eta^3$  Hapticity interconversion in cycloheptatrienyl complexes of molybdenum and tungsten. Crystal structures of  $[\text{Mo}(\text{NCS})(\text{CO})_2(\text{C}_{10}\text{H}_7\text{N}_2)(\eta^3-\text{C}_5\text{H}_5)]$  and  $[\text{Mo}(\text{Cl})(\text{CO})(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)(\eta^3-\text{C}_5\text{H}_4\text{C}_6\text{H}_4\text{F}-4)]$ , 3629  
Complexes of  $[\text{Ph}_2\text{P}(\text{O})(\text{NP}(\text{E})\text{Ph}_2)]^-$  ( $\text{E} = \text{S}$  or  $\text{Se}$ ): disparate ring conformations within a new palladacycle, 3659  
Synthesis and characterisation of selenoether macrocyclic complexes for  $\text{Co}^{III}$ ,  $\text{Rh}^{III}$  and  $\text{Ir}^{III}$ : crystal structures of *trans*- $[\text{CoBr}_2([16]\text{janeSe}_4)]\text{BPh}_4$  and *trans*- $[\text{IrBr}_2([16]\text{janeSe}_4)]\text{BPh}_4$  ( $[16]\text{janeSe}_4 = 1,5,9,13$ -tetraselenacyclohexadecane), 3713  
Molecular structure of  $[\text{Ti}(\text{tpy})(\text{O}_2\text{CCF}_3)]$  and  $^{19}\text{F}$  dynamic nuclear magnetic resonance of it and  $[\text{Ti}(\text{tmpy})(\text{O}_2\text{CCF}_3)]$  ( $\text{tpy} = 5,10,15,20$ -tetraphenylporphyrinate,  $\text{tmpy} = 5,10,15,20$ -tetra-(4-methoxyphenyl)porphyrinate], 3787  
Macropolyhedral boron-containing cluster chemistry. An X-ray diffraction and nuclear magnetic resonance study of the double cluster 11-vertex: 11-vertex tetracobaborane  $\text{C}_4\text{B}_{18}\text{H}_{22}$ , 3813  
Structural and nuclear magnetic resonance studies of triosmium and triruthenium carbonyl cluster derivatives containing pentaphenylcyclopentaphosphane, 3843  
Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of  $\text{PPh}_3$  with gold(I) halides; crystal structure of  $[\text{AuBr}(\text{PMes}_3)]$  (1996, 3121), 3897  
Synthesis and nuclear magnetic resonance studies of molybdenum and tungsten thiolate complexes, 4011  
Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiolene d<sup>1</sup> and d<sup>0</sup> niobium complexes, 4093  
Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphatidyl ligands and their chalcogenide derivatives, 4099  
Conformational trends in arsocane dithiophosphinates  $\text{X}(\text{CH}_2\text{CH}_2\text{S})_2\text{AsS}_2\text{PR}_2$  ( $\text{X} = \text{O}$  or  $\text{S}$ ;  $\text{R} = \text{Me}$ ,  $\text{Et}$  or  $\text{Ph}$ ), 4135  
Aqueous vanadosilicates, 4189  
Electron self-exchange and cross-reaction studies on wild-type *Clostridium pasteurianum* rubredoxin and its Val-8→Glu variant, 4287  
Synthesis, properties and characterization of the trinuclear clusters  $[\text{Co}_3(\mu-\text{SR})_6(\text{PEt}_3)_3]\text{X}$  ( $\text{R} = \text{Me}$  or  $\text{Et}$ ,  $\text{X} = \text{BPh}_4^-$  or  $\text{PF}_6^-$ ), 4337  
Formation and structure of inclusion complexes involving α-cyclodextrin and alkyl(aqua)cobaloxime, 4425  
Synthesis and characterization of dioxorhenium complexes derived from water-soluble diphosphine tetraphosphonates, 4459  
Synthesis, solution and magic angle spinning tin-119 nuclear magnetic resonance studies and crystal structures of dithioether complexes of tin(IV) halides, 4471  
Second-order paramagnetic rhodium(III) complexes: solid-state structure and assignment of the carbon-13 magnetic resonance spectra in solution, 4563  
Group 9 metal 1,1'-bis(phosphino)ferrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633

**NUCLEIC ACID**  
8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391  
Metallocene-nucleobase conjugates. Synthesis, structure and nucleic acid binding, 4115

**NUCLEOBASE**  
9-Methylenadenine complexes of platinum(II) stabilized by trimethylphosphine: use of  $^{15}\text{N}$  nuclear magnetic resonance spectroscopy to assign the co-ordination site, 299  
Stabilisation of unusual simultaneous binding of four cytosine nucleobases to copper(II) by a novel network of bifurcated hydrogen bonding, 1333  
Hydrogen-bond recognition of nucleosides by oligopyridine ligands and their ruthenium complexes, 2389  
Dinuclear nucleobase-anion-bridged complexes of  $\text{Pd}^{II}$  and  $\text{Pt}^{II}$  with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409  
Metallocene-nucleobase conjugates. Synthesis, structure and nucleic acid binding, 4115

**NUCLEOSIDE**  
Stabilisation of unusual simultaneous binding of four cytosine nucleobases to copper(II) by a novel network of bifurcated hydrogen bonding, 1333  
Hydrogen-bond recognition of nucleosides by oligopyridine ligands and their ruthenium complexes, 2389  
8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391  
Correlation between kinetic and thermodynamic complex-formation constants for the interaction of bis(amine)palladium(II) with inosine, inosine 5'-monophosphate and guanosine 5'-monophosphate, 2673  
Kinetics and mechanism of complexation of *trans*- $[\text{PtCl}(\text{NH}_3)_2(\text{H}_2\text{O})]^{+}$  with inosine and 1-methylinosine in aqueous solution at different pH values, 3101  
Synthesis, characterization and crystal structure of cyclic vanadate complexes with monosaccharide derivatives having a free adjacent diol system, 3257

**NUCLEOTIDE**  
Correlation between kinetic and thermodynamic complex-formation constants for the interaction of bis(amine)palladium(II) with inosine, inosine 5'-monophosphate and guanosine 5'-monophosphate, 2673  
Stabilization of monofunctional platinum-nucleotide adducts: reactions of N-acetyl-L-methionine complexes with guanosine 5'-monophosphate and guanylyl(3'-5')guanosine, 2867

**OLIGOMERISATION**  
Phenylnickel complexes with a chelating P,N ligand. Structures of  $\text{Ph}_2\text{P}-\text{CH}(\text{C}_6\text{H}_4-\text{NPh})\text{Ph}$  and  $[\text{NiPh}_2\text{P}(\text{CH}_2\text{CH}(\text{C}_6\text{H}_4-\text{NPh})\text{Ph})-\text{Ph}_2\text{P}-\text{CH}(\text{C}_6\text{H}_4-\text{NPh})\text{Ph-N}^-]$ , 3571

**OROTATE**  
5-Aminoorotic acid, a versatile ligand with the ability to exhibit differing co-ordination and hydrogen-bonding modes: synthesis and crystal structures of platinum(II) complexes, 3805

**ORTOCIC ACID**  
Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149

**OSMIUM**  
Reactions of the unsaturated alkyne cluster  $[\text{Os}_3(\text{CO})_7\{\mu_3-\eta^2(\perp)-\text{PhC}_2\text{Ph}\}(\text{dpmm})]$  with P-donors; crystal structures of  $[\text{Os}_3(\text{CO})_6\text{PhC}_2\text{Ph}(\text{dpmm})\{\text{P}(\text{OMe})_3\}]$  and two isomers of  $[\text{Os}_3(\text{CO})_7\{\text{PhC}_2\text{Ph}\}(\text{dpmm})\{\text{PBu}_3\}]$  ( $\text{dpmm} = \text{Ph}_2\text{PCH}_2\text{PPh}_2$ ), 117  
Removing a second mercury atom from  $[\text{Os}_{10}\text{HgC}_2(\text{CO})_{12}]^{2-}$ : synthesis of  $[\text{Os}_{10}\text{HgC}_2(\text{CO})_{12}]^{4-}$  and crystal structure of  $[\text{PPh}_3]^+[\text{Os}_{10}\text{HgC}_2(\text{CO})_{12}]^{5-}$ , 597  
Dynamic disorder in crystalline  $[\text{Fe}_2\text{Os}(\text{CO})_{12}]$  and direct evidence for rotation of the  $\text{Fe}_2\text{Os}$  triangle in the solid state from variable-temperature X-ray diffraction and  $^{13}\text{C}$  MAS NMR studies, 631  
Systematic synthesis of substituted hexanuclear phosphido- and phosphinidene-bridged osmium clusters, 755  
Mercury-osmium carbonyl clusters resulting from facile Hg-C bond cleavage: reactions of  $[\text{Os}_3\text{H}_2(\text{CO})_{10}]$  with  $[\text{Hg}(\text{C}=\text{CPh})_2]$  and  $[\text{RHg}=\text{CHGr}]$  ( $\text{R} = \text{Ph}$ ,  $\text{Me}$  or  $\text{Et}$ ), 899  
Systematic synthesis of hexanuclear phosphido-bridged osmium clusters; crystal and molecular structure of  $[\text{Os}_6(\mu-\text{H})(\text{CO})_{22}(\mu-\text{PH}_2)]$ , 1567  
Synthesis of 1,3-diaryltriazenido triruthenium and triosmium clusters: crystal structures of  $[\text{Ru}_3(\mu-\text{H})(\text{CO})_9(\mu-\text{C}_6\text{F}_4\text{NNNC}_6\text{F}_5)]$  and  $[\text{Os}_3(\text{CO})_9\text{Cl}(\eta^2-\text{C}_6\text{F}_4\text{NNNC}_6\text{F}_5)]$ , 1573  
Triosmium and triruthenium clusters containing the 4-methylthiazolidine ligand: crystal structures of  $[\text{Os}_3(\mu-\text{H})(\text{CO})_9(\mu-2,3-\eta^2-\text{C}=\text{NCMe}-\text{CHS})]$ ,  $[\text{Os}_3(\mu-\text{H})(\text{CO})_9(\mu-2,3-\eta^2-\text{C}=\text{NCMe}-\text{CHS})(\text{PPh}_3)]$  and  $[\text{Os}_3(\mu-\text{H})(\text{CO})_9(\mu-2,3-\eta^2-\text{C}=\text{NCMe}-\text{CHS})(\text{PPh}_3)_2]$ , 1731

**OSMIUM (contd)**

Covalently linked anthracene-containing supramolecular complexes of triosmium carbonyl clusters: synthesis, crystal structures and solvatochromic behaviour, 1853  
 Isolation and structural characterisation of products from the reaction of  $[Os_3(\mu-H)_4(CO)_{10}(MeCN)_2]$  with cyclohexa-1,3-diene, 2165  
 Synthesis and characterization of triosmium clusters containing a nitrite ligand; crystal and molecular structures of  $[N(PPh_3)_2]Os_3(CO)_{10}(\mu-\eta^2-NO_2)$  and  $[Os_3(\mu-H)(CO)_{10}(\mu-\eta^2-NO_2)]$ , 2177  
 Novel triosmium cluster complexes with rod-like molecular geometry. Syntheses and crystal structures of  $[Os_3(\mu-H)_2(CO)_9(\mu_3-CNC_6H_4CH=NC_6H_4OC_{16}H_{33})]$  and  $[Os_3(\mu-H)-(CO)_{10}(\mu-NC_6H_4CH=NC_6H_4OC_{16}H_{33})]$ , 2293  
 Synthesis of alkynyl, cyclic carbene and vinylidene osmium(II) complexes: first indenyl half-sandwich osmium(II) complexes, 2547  
 Structural and two-dimensional phosphorus-31 nuclear magnetic resonance studies of derivatives from  $(RP)_3$  ( $R = Et$  or  $Ph$ ) and activated triosmium clusters  $[Os_3(CO)_{10}X_2]$  ( $X = \mu-H$  or  $NCMe$ ), 2773  
 Synthesis, characterisation, molecular and crystal structures of two novel osmium-palladium carbide carbonyl clusters, 2887  
 Reactions of  $(F_3CP)_4$  and  $(F_3CP)_5$  with ruthenium and osmium carbonyl clusters: characterisation and crystal structures of the products, 3131  
 Dimetallic gold(I) and platinum(II) complexes containing a trioxosmium(VIII) moiety. Crystal structures of  $[Au(PPh_3)(NO_3O_3)]$  and  $cis-[Pt(PMe_3)_2(NO_3O_3)_2]$ , 3153  
 Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated  $[M_3(\mu-H)(CO)_{10}(\mu-NC_6H_4)]$  ( $M = Ru$  or  $Os$ ) and ferrocene chromophores bridged by an aromatic unit, 3209  
 Synthesis, characterisation and electrochemical analysis of a bis-(ferrocenyl) vinyl allyl ether-substituted triosmium cluster, 3521  
 Synthesis and characterisation of diphenylvinylphosphine-substituted osmium and ruthenium carbonyl clusters; crystal and molecular structures of  $[Os_3(CO)_{10}(Ph_2PCH=CH_2)]$  and  $[Os_3(\mu-H)(CO)_9(\mu-Ph_2PCH=CH_2)]$ , 3825  
 Structural and nuclear magnetic resonance studies of triosmium and triruthenium carbonyl cluster derivatives containing pentaphenylcyclopentaphosphane, 3843  
 Reactions of the linear triosmium cluster  $[Os_3H(CO)_{11}(\eta^2-C_6F_5NNNC_6F_5)]$  with  $[Os_3(CO)_{12-n}(NCMe)_n]$  ( $n = 1$  or 2): crystal structures of  $[Os_4(\mu-H)(CO)_{10}(\eta^2-C_6F_5NNNC_6F_5)]$  and  $[Os_3(\mu-H)(CO)_{11}(\eta^2-C_6F_5NNNC_6F_5)]$ , 4083  
 Synthesis, characterisation and electrochemistry of the novel ferrocenyldiethyltriosmium cluster  $[Os_3(CO)_9(\mu-\eta^4-Fe[C_6H_4(C_6SiMe_3)]_2)]$ , 4147  
 Use of  $[Ru(n^3-C_5H_5)(MeCN)_3]^+$  as a capping reagent in cluster build-up: synthesis and structural characterisation of  $[Os_3Ru_2(CO)_9(n^3-C_5H_5)_2]$ , 4509  
 Structural and bonding trends in osmium carbonyl cluster chemistry: metal-metal and metal-ligand bond lengths and calculated strengths, relative stabilities and enthalpies of formation of some binary osmium carbonyls,  $[Os_x(CO)_x]$ , 4639

**OXALATE**

Synthesis, magnetic behaviour and structural characterization of the alternating hexanuclear copper(II) compound  $[Cu_6(tmen)_6(\mu-N_3)_2(\mu-C_2O_4)_3(H_2O)_2][ClO_4]_2\cdot 2H_2O$  ( $tmen = Me_2NCH_2CH_2NMe_2$ ), 1835  
 Crystal structure and magnetic properties of the layer ferrimagnet  $N(n-C_6H_5)_4Mn^{II}Fe^{III}(C_2O_4)_3$ , 1839  
 Synthesis, structure and characterisation of  $[Ni(bipy)_3][NaAl(ox)_3]$  ( $bipy = 2,2'-bipyridine$ ,  $ox = oxalate$ ), 3985

**OXAMIDATE**

Deprotonation and self-assembly of a symmetric oxamidate-bridged dinuclear copper(II) complex involving imidazole moieties, 861  
 Conformational change of the  $N,N'$ -bis(3-aminopropyl)oxamidate ligand in nuclearity tailoring copper(II) complexes, 1359

**OXAZOLYL**

Reactions of cyano-iron and -ruthenium compounds with *gem*-dicyanoperoxides. A new pathway to vinyl isocyanide complexes of iron and ruthenium, 3231

**OXIDATIVE ADDITION**

Oxidative-addition reactions on planar chloranilate rhodium systems. Crystal structure of  $[Rh_2(\mu-C_6Cl_2O_4)Me_2L_2(CO)_2(PPh_3)_2]$ , 2155

**OXIDATIVE DEHYDRATION**

Oxidative dehydrogenation of a saturated tetraaza macrocyclic nickel(II) complex: selective formation of nickel(II) complexes containing one or two imino groups, 2809

**OXIDE**

Oxovanadium(IV) complexes of ligands containing phosphonic acid moieties, 87  
 Structure, characterization and photoreactivity of monomeric

dioxovanadium(V) Schiff-base complexes of trigonal-bipyramidal geometry, 93

Chemistry of oxovanadium(V) alkoxides: synthesis and structure of mononuclear complexes incorporating ethane-1,2-diol, 99

Molybdenum(VI) imidodisulfur complexes formed *via* double sulfur-carbon bond cleavage of dithiocarbamates, 183

Improved syntheses, structures, spectral and electrochemical properties of  $[Mn^{III}_2(\mu-O)(\mu-O_2CMe)_2L_2]^{2+}$  and  $[Mn^{IV}_2(\mu-O)_2L_2]^{2+}$  complexes. Two homologous series derived from eight N-substituted 1,4,7-triazacyclononanes, 353

The first crystal structures of mixed chalcogen derivatives

$SnR_2[(OPPh_3)_2(SPh_2)N]$ , ( $R = Me$  or  $Ph$ ), 391

Synthesis and reactivity of  $\eta^2(4e)$ -alkyne and  $\eta^2(3e)$ -vinyl complexes of rhenium, 415

First-row transition-metal complexes of corroles: synthesis and characterization of oxotitanium(IV) and oxovanadium(II) complexes of  $\beta$ -alkylcorroles (1995, 3617), 553

Characterisation of a cationic trimobium aqua ion cluster and related studies, 703

Oxovanadium(IV) complexes of ligands containing phosphonic acid moieties (1996, 87), 1779

Crystal and molecular structure of  $[V_2O_5(sal-L-val)(H_2O)]$  ( $sal-L-val = N$ -salicylidene-L-valinate) and spectroscopic properties of related complexes, 1989

Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067

Influence of mixed sulfur-nitrogen oxides on the redox kinetics of iron ions in aqueous solution, 2135

8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391

Synthesis, crystal structure and non-linear optical properties of two new cluster compounds,  $[MoCu_2Os_2(PPh_3)_3(S_2P(OBu)_2)_2]$  and  $[MoAg_2S_2(PPh_3)_3(S_2P(OBu)_2)_2]$ , 2617

Vanadium chloride and chloride oxide complexes in an ambient-temperature ionic liquid. The first use of bis(trichloromethyl) carbonate as a substitute for phosgene in an inorganic system, 2787

Electronic and steric effects in manganese Schiff-base complexes as models for the water oxidation complex in photosystem II. The isolation of manganese(II) and -(III) complexes of 3- and 3,5-substituted  $N,N'$ -bis(salicylidene)ethane-1,2-diamine ( $H_2salen$ ) ligands, 2935

Co-ordination chemistry of S-methyl 2-methylthiocarbazate and formation of  $[M=N]^{2+}$  ( $M = Tc$  or  $Re$ ) species, 3105

Dimetallic gold(I) and platinum(II) complexes containing a trioxosmium(VIII) moiety. Crystal structures of  $[Au(PPh_3)(NO_3O_3)]$  and  $cis-[Pt(PMe_3)_2(NO_3O_3)_2]$ , 3153

Synthesis, crystal structure and redox properties of  $\mu$ -oxo-bis( $\mu$ -acetato)diruthenium(II) complexes having 2,2'-bipyridine and imidazole bases as terminal ligands, 3289

Studies on the thermal decomposition of basic lead(II) carbonate by Fourier-transform Raman spectroscopy, X-ray diffraction and thermal analysis, 3639

Kinetics of oxidation of nitrogen(III) by an oxo-bridged dinuclear manganese(III,IV) complex in weakly acidic media, 3951

Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diron(II) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037

Controlled hydrolysis reactions of the Group 15 element-azamacrocyclic complexes  $MC_6L$  ( $M = As$ ,  $Sb$  or  $Bi$ ;  $L = 1,4,7$ -trimethyl-1,4,7-triazacyclononane). Formation and crystal structures of  $[AsCl_3L][As_2OCl_6]$ ,  $[H_2L]_2[As_2OCl_6]Cl_2$ ,  $[HL]_2$  and  $[H_2L]_2[As_2OCl_6]Cl_2MeCN\cdot H_2O$ , 4045

Camphor-based  $\beta$ -hydroxyphosphoryl ligands and their complexes of the type  $[Mo(O_2)_2L(H_2O)]$ , 4149

Novel structural forms for imidoamides and oxoalkoxides of bismuth, 4159

Macrocyclic dimeric vanadium(IV) and heterodinuclear vanadium(IV)-nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

Preparation and crystal structure of an oxoimido complex of molybdenum containing the 2,4,6-triphenylphenylimide ligand, 4265

Kinetics and mechanism of reduction of  $(trans$ -cyclohexane-1,2-diyl)dinitripletacetato)manganese(III) by  $HONH(SO_3)^-$  and  $HON(SO_3)_2^{2-}$ , 4393

Synthesis and characterization of dioxorhenium complexes derived from water-soluble diphosphine tetraphosphonates, 4459

Chemical origin of high activity in oxygenation of cyclohexane by  $H_2O_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

The electronic structure of 'linear' nickel oxides, 4555

**OXIMATE**  
 Kinetics and mechanism of the cobaloxime(II)-catalysed oxidation of 2-aminophenol by dioxygen. A phenoxazinone synthase model involving free-radical intermediates, 473

**OXIMATE (contd)**

Synthesis, spectra and crystal structures of complexes of ambidentate  $C_6H_5C(O)C(NO)CN^-$ , 2351  
 Electron transfer from thiosulfate to nickel(IV) oxime imine complexes in aqueous solution, 2645  
 Iron catalysis of the reduction of oxime-bound nickel(IV) by hydroxylamine, 3417  
 Synthesis and nuclear magnetic resonance investigation of 1-phenylpropane-1,2-dione 2-oxime complexes of trimethylplatinum(IV), 3543  
 Synthesis, structure and reactivity of cobalt(III) complexes with tridentate imino- and amino-oxime ligands, 4269

**OXIME**

A potentiometric and spectroscopic study of copper(II) diamino-dioxime complexes, 1373

**OXYDIACETATE**

Synthesis and characterization of zinc(II) oxydiacetate (oda) complexes. Crystal structures of  $[Zn(oda)\cdot 0.3H_2O]_n$ ,  $[Zn(oda)(bipy)(H_2O)\cdot 2.5H_2O]$  and  $[Zn(oda)(phen)(H_2O)\cdot 1.5H_2O]$  ( $bipy = 2,2'$ -bipyridine,  $phen = 1,10$ -phenanthroline), 2747

**OXYGEN-17**

Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametallic derivatives, 681  
 Characterisation of a cationic triinobium aqua ion cluster and related studies, 703  
 Silicon-29 and oxygen-17 relaxation in  $H_3Si_2O_{12}$  in solution, 1597  
 Aqueous tungstovanadate equilibria, 2705  
 Oxygen and vanadium exchange processes in linear vanadate oligomers, 3357  
 Aqueous vanadosilicates, 4189

**OXYGENATION**

Copper(I) and - (II) complexes of a macrocycle derived from 2:2 condensation of pyridine-2,6-dicarbaldehyde and 4-azahexane-1,7-diamine; oxygenation of the copper(I) complex, 167  
 Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diiron(III) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037  
 Chemical origin of high activity in oxygenation of cyclohexane by  $H_2O_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

**PALLADIUM**

Synthesis, structure and characterisation of amido derivatives of  $[9]aneN_3$  (1,4,7-triazaacyclonanone), 31  
 Reaction of  $(Me_2SiNSN)_2S$  with palladium complexes; crystal structures of  $[PPh_4]_2[Pd_2Br_4(S_2N_2)_2]$  and  $[PPh_4]_2[PdBr_2(S_2N_2)_2]$ , 53  
 Preparation of bis(phosphine)bis(selenocarboxylato)-nickel(II), -palladium(II) and -platinum(II) complexes and their crystal structure analysis, 79  
 Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149  
 A reinforced polyaza[n,n]paracyclophane containing piperazine rings, 239  
 Is the fluxional motion of bidentate 2,2':6',2"-terpyridine in *cis*- $[M(C_6F_5)_2(\text{terpy})]$  ( $M = Pd^{II}$  or  $Pt^{II}$ ) a dissociative process? A comment, 253  
 Transition-metal complexation by calix[4]arene-derived phosphinites, 513  
 Asymmetric functionalisation of aza macrocycles. Syntheses, crystal structures and electrochemistry of  $[Ni(Bz[9]aneN_3)_2][PF_6]_2$  and  $[Pd(Bz[9]aneN_3)_2][PF_6]_2\cdot 2MeCN$  ( $Bz[9]aneN_3 = 1\text{-benzyl-}1,4,7\text{-triazaacyclonanone}$ ), 525  
 Intrazeolite large palladium clusters prepared by organometallic chemical vapour deposition, 765  
 New atropisomeric bidentate nitrogen-donor compounds as potential stereocontrollers in mild CO-styrene copolymerisation catalysed by palladium(II) salts, 1021  
 Synthesis, structure and reactions of the first tellurium-containing macrocyclic Schiff base, 1203  
 Synthesis and characterization of square-planar palladium(II), platinum(II) and rhodium(I) complexes with a chiral pyridyl-phosphine hybrid ligand, 1295  
 Hydroxymethyl bis(phosphines) and their palladium(II) and platinum(II) complexes formed via biphasic reactions. Crystal structure of  $[Pd_2(HOH_2)_2PC_6H_5P(CH_2OH)_2]Cl_2$ , 1301  
 Polynuclear pyrazolato complexes. Synthesis, chemical reactivity and crystal structures of  $[(Pd(dmpz)_2)(Hdmpz)_2]_2$  and  $[(PdAg_2(dmpz)_2)]$  ( $Hdmpz = 3,5\text{-dimethylpyrazole}$ ), 1351  
 Facile acid-promoted decarboxylation of a macrocyclic complex. Crystal structure of  $[6,14\text{-diacetyl-}7,13\text{-dimethyl-}1,4,8,12\text{-tetraazacyclopentadeca-}1(15),5,7,13\text{-tetraen-2-olato}]nickel(II)$ , 1513  
 Reactions of di- and tri-nuclear palladium and platinum isocyanide complexes with highly basic and bulky aromatic phosphines containing methoxy groups at the 2 and 6 positions, 1815  
 Heteronuclear Pt-Pd, Pt-Cu and Pt-Ni complexes with bridging acetamide: crystal structures and spectroscopic studies, 1823

Synthesis and structures of half-sandwich palladium(II) complexes of 1,4,7-triazaacyclonanone ( $[9]aneN_3$ ) incorporating halide, phosphine and heterocyclic ligands, 1885

Equilibria and rates of olefin substitution in zerovalent palladium complexes containing a 2-pyridylmethanamine ligand, 1921  
 Carbonylation of hydrocarbylpalladium(II) complexes containing substituted pyridinecarboxylate chelating ligands. Steric and electronic manipulation of the CO-insertion mechanism, 2197  
 Dinuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227

Dinuclear nucleobase-anion-bridged complexes of  $Pd^{II}$  and  $Pt^{II}$  with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409

Kinetic study of stereochemical and other factors governing hydrolytic cleavage of a peptide ligand in binuclear palladium(II) complexes, 2653

Correlation between kinetic and thermodynamic complex-formation constants for the interaction of bis(amine)palladium(II) with inosine, inosine 5'-monophosphate and guanosine 5'-monophosphate, 2673

Synthesis of aryl selenides using arylmercurials. Cyclopalladation of  $Se(R)Ph$  [ $R = C_6H_5(N=C_6H_4Me-4)-2,Me-5$ ]. Crystal structures of  $Se_2R_2$  and  $[Pd(C_6H_5[N=N]C_6H_3(SePh)-2,Me-4)]_2\cdot 2,Me-5Cl]$ , 2713

Synthesis, characterisation, molecular and crystal structures of two novel osmium-palladium carbide carbonyl clusters, 2887

Synthesis and reactivity of aryl- and alkyl-palladium(II) complexes with functional phosphines and phosphinoenolate ligands: first analogues of model nickel catalysts, 2903

Chelate-stabilized alkoxopalladium(II) complexes with chiral phosphine-substituted carbohydrate ligands, 2911

Dinuclear palladium(I) complexes with isocyanide and N-donor bidentate ligands, 3059

Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrilo ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and alkenes, 3139

A bis(cyclopalladated) tetranuclear derivative of methyl ferrocenyl ketone azine:  $[(Pd(\eta^5-C_5H_5)Fe(\eta^5-C_5H_5)CMe-\bar{N})Cl(PPh_3)_2]_2$ , 3195

Synthesis of heteronuclear compounds by use of  $[Ti(\eta^5-C_5H_5PPh_2)_2(R)_2]$  ( $R = Et$  or  $Ph$ ) as metalloligands. Crystal structures of  $[(Mo(CO)_4]_2(\mu-\text{Ph}_2PC_6H_4)_2Ti(SPh_3)_2$  and  $[(OC)_4Mo(\mu-\text{Ph}_2PC_6H_4)_2Ti(\mu-SPh_3)P(C_6F_5)_2]$ , 3201

Pentanuclear cluster of palladium(II) bridged by telluride ions: synthesis and crystal structure of  $[Pd_5(\mu_3-Te)_4(\text{Ph}_2PCH_2CH_2PPh_2)_4]^{4+}$ , 3335

Synthesis and characterization of nickel-group bis(dithiocroconate) complexes and dicyanomethylene-substituted analogues, 3507

Diphosphine derivatives of urea and thiourea, 3647

Complexes of  $[Ph_3P(O)NP(E)Ph_2]^-$  ( $E = S$  or  $Se$ ): disparate ring conformations within a new palladacycle, 3659

Nitrile hydration catalysed by palladium(II) complexes, 3677

Synthesis, molecular structure and palladium(II) and platinum(II) complex chemistry of 3-(ferrocen-1-yl)-1-(pyridin-2-yl)pyrazole, 4055

Synthesis and structural characterisation of  $[Pd_2(\mu-Br)_2(PBu')_2]_2$ , an example of a palladium(I)-palladium(II) dimer, 4313

Heteropolymeric aggregates from  $[Pd_2(dppf)_2(\mu-S)_2]$ . Bonding and structural analysis of  $[Ag_2Pd_2Cl_2(dppf)_2(\mu-S)_2]\cdot 4CH_2Cl_2$  [ $dppf = Fe(C_6H_5PPh_2)_2$ ]—a flat  $[Pd_2S_2]$  core with two  $AgCl$  tails, 4315

Asymmetric syntheses, structures and co-ordination chemistry of palladium(II) complexes containing a chiral P,S hybrid bidentate ligand, 4443

**PEPTIDE**

Crystal and molecular structure of dimethyl(l-tryptophyl-l-alanato)tin(IV)-methanol (1/1) and Mössbauer spectroscopy studies of lattice dynamics of diorganotin(IV) dipeptide complexes, 1195

Kinetic study of stereochemical and other factors governing hydrolytic cleavage of a peptide ligand in binuclear palladium(II) complexes, 2653

Copper(II) complexes with cyclo(l-aspartyl-l-aspartyl) and cyclo(l-glutamyl-l-glutamyl) derivatives and their antioxidant properties, 3093

Co-ordination of copper(II) ions by prolyl- $\alpha,\beta$ -dehydroamino acids: comparative studies and general considerations, 3265

Ultraviolet-circular dichroism spectra for structural analysis of copper(II) complexes with aliphatic and aromatic ligands in aqueous solution, 3269

Structure of copper(II) complexes with l-leucyl-D- or L-leucyl-L-phenylalanine and molecular orbital calculations on their stabilization, 3449

**PERCHLORATE**

Novel octadecanuclear copper(II)-lanthanoid(III) clusters. Synthesis and structures of  $[Cu_{12}Ln_6(\mu_3-OH)_2(O_2CCH_2CH_2NC_5H_5)_2\cdot (H_2O)_6(\mu_{12}ClO_4)_2][ClO_4]_{17-} \cdot 16H_2O$  ( $Ln^{III} = Gd^{III}$  or  $Sm^{III}$ ), 2443

**PERIODIC TABLE**

Evolution of the modern periodic table, 3899

**PEROXIDE**The crystal structures of  $[NMe_4]^+[(Me_2AsO_2)_2^-[MoO(O_2)_2]_2]$ ,  $[NMe_4]^+[(Ph_2PO_2)_2^-[MoO(O_2)_2]_2]$ ,  $[NBu_4]^+[(Ph_2PO_2)_2^-[WO(O_2)_2]_2]$  and  $[NH_4]^+[(Ph_2PO_2)_2^-[MoO(O_2)_2(H_2O)]_2]$  and their use as catalytic oxidants, 2039

8-Hydroxy-2'-deoxyguanosine formation and DNA damage induced by a dinuclear manganese(IV) complex and hydrogen peroxide, 2391

Formation and reactivity of a peroxide adduct of iron(III) complexes containing substituted phenolic derivatives, 2579

Camphor-based  $\beta$ -hydroxyphosphoryl ligands and their complexes of the type  $[MoO(O_2)_2L(H_2O)]$ , 4149Chemical origin of high activity in oxygenation of cyclohexane by  $H_2O_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479**PEROXOSULFATE**Reaction kinetics and mechanism of formation of  $[H_4CoMo_{10}O_{34}]^{4-}$  by peroxyomonosulfate oxidation of  $Co^{II}$  in the presence of molybdate, 2629**PERSPECTIVE**

Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255

Metal clusters: a personal perspective, 555

Gold – a flexible friend in cluster chemistry, 561

Metal-containing carbon clusters, 567

Diverse solid-state clusters with strong metal–metal bonding. In praise of synthesis, 575

Ligand-stabilized metal clusters and colloids: properties and applications, 589

Hydrogenation and hydrogenolysis of thiophenic molecules catalysed by soluble metal complexes, 801

Tellurium compounds of the main-group elements: progress and prospects, 1185

Ditungsten hexaalkoxides: templates for organometallic chemistry and catalysis, 1781

Methanol carbonylation revisited: thirty years on, 2187

Arené cluster compounds, 2395

Synthesis, structure and reactivity of homo- and hetero-polynuclear complexes of platinum bearing C≡CR groups as unique bridging ligands, 2587

P–N–S/Se-containing metallacycles, 2893

 $\pi$  Stacking and the co-ordinate bond: sometimes conflicting factors in molecular recognition, as revealed in the structures of metal picrates, 3165

New materials by sol–gel processing: design at the molecular level, 3343

Getting excited about lanthanide complexation chemistry, 3613

Evolution of the modern periodic table, 3899

The versatile chemistry of arenemanganese carbonyl complexes, 4493

**PHARMACEUTICAL**

Synthesis, crystal structure and molecular orbital investigation of the first platinum complex of piroxicam, 111

A proton nuclear magnetic resonance study of the interaction of zinc(II) with the antitumour drug streptonigrin, 549

Synthesis and electrospray mass spectrometry of platinum(II) complexes of 5,5-diethylbarbituric acid (Hdebarb); crystal structure of *cis*-[PtCl(debarb)(PP<sub>3</sub>)<sub>2</sub>]·CH<sub>2</sub>Cl<sub>2</sub>, 1897

Crystal structure of a copper(II)–famotidine–histidine ternary system, 1905

Structural studies on an iron(III) complex containing (Z)-2-(2-aminothiazol-4-yl)-N-(2-hydroxyethyl)-2-(hydroxymino)-acetamide, a model compound for a cephalosporin antibiotic Cefdinir, 1967

Solid-state carbon-13 nuclear magnetic resonance investigations of bismuth citrate complexes and crystal structure of Na<sub>2</sub>[Bi<sub>2</sub>(cit)<sub>2</sub>]·7H<sub>2</sub>O, 2417**PHASE TRANSITION**

Phase transition in triiodide salts of binuclear ferrocene derivatives having long alkyl chains accompanied by a change in mixed-valence state, 139

Polymorphism, structures and phase transformation of K<sub>3</sub>[SO<sub>4</sub>]F, 2497**PHENANTHROLINE**

Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Diiron(III) and polymeric iron(III)–sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties, 321

Synthesis of the new binucleating compound pyrazin-2-yl 2-pyridyl sulfide for stepwise or direct approach to asymmetric binuclear ruthenium(II) complexes, 885

Mechanism of chelation of phenanthroline derivatives to Mo(CO)<sub>6</sub> deduced from pulsed photolysis studies in several solvents at high pressure, 1629Photoinduced electron transfer between [Cu(dmphen)L]<sub>n</sub><sup>+</sup>[dmphen = 2,9-dimethyl-1,10-phenanthroline, L = PPh<sub>3</sub>(C<sub>6</sub>H<sub>4</sub>OMe-*p*)<sub>n</sub>, (*n* = 0–3)] and methyl viologen, 1909Reactions of (diethylaminocarbamato)halogenotellurium(II); crystal structures of R[Te(S<sub>2</sub>CNEt<sub>2</sub>)X<sub>2</sub>] [R = NEt<sub>4</sub>, X = I; R = H(phen), (phen = 1,10-phenanthroline), X = I or Br], 2253

Diiron(III) and polymeric iron(III)–sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties (1996, 321), 2394

Electrosynthesis and co-ordination chemistry of polymer films coated on electrode surfaces from pyrrole polypyridyls, 2503

Synthesis and characterization of zinc(II) oxydiacetate (oda) complexes. Crystal structures of  $[Zn(oda)\cdot 0.3H_2O]_n$ ,  $[Zn(oda)(bipy)(H_2O)]\cdot 2.5H_2O$  and  $[Zn(oda)(phen)(H_2O)]\cdot 1.5H_2O$  (bipy = 2,2'-bipyridine, phen = 1,10-phenanthroline), 2747

Binuclear palladium(I) complexes with isocyanide and N-donor bidentate ligands, 3059

Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrogen ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and olefins, 3139

Kinetics of oxidation of nitrogen(III) by an oxo-bridged binuclear manganese(III,IV) complex in weakly acidic media, 3951

**PHENOL**Crystal structure and spin-doublet electron spin resonance of a magnetically coupled di( $\mu$ -phenoxo)-copper(II)nickel(II) complex, 25

Phosphine-participated formation and crystal structures of nickel complexes with 2-sulfanylphenol and phosphine ligands, 177

Kinetics and mechanism of the cobaloxime(II)-catalysed oxidation of 2-aminophenol by dioxygen. A phenoxazinone synthase model involving free-radical intermediates, 473

The preparation and crystal and molecular structures of new luminescent Schiff-base complexes featuring coupled lanthanide(III) cations, 961

Formation of axial phenolate–metal bonds in square-pyramidal complexes, 2233

Spectral and electrochemical recognition of halide anions by acyclic mononuclear ruthenium(II) bipyridyl receptor molecules, 2341

Homo- and hetero-binuclear metal complexes of bridging ligands containing phenol and azole moieties. Structure, spectroscopy, electrochemistry and magnetochemistry, 2371

Reactions of substituted hydrazines with vanadium(IV) compounds: crystal structures of  $[NH_2Me_2]_2[(VCl_3)_2(\mu-NNMe_2)_2]$ ,  $[V(OC_6H_5Pr_2-2,6)_3(NH_2MePh)]$ , 2755

Zinc(II) complexes of tripodal ligands providing phenolate and pyridine donors: formation, structure and hydrolytic activity, 2857

 $\pi$  Stacking and the co-ordinate bond: sometimes conflicting factors in molecular recognition, as revealed in the structures of metal picrates, 3165

Syntheses and characterization of novel tri- and hexa-nuclear zinc complexes with biomimetic chelate ligands, 3731

Synthesis and spectroscopy of unsymmetric mononuclear lanthanide cryptates. Structure of two europium(III) cryptates co-existing in the same crystal  $[EuL(OH_2)]\cdot [Eu(HL)(NCS)]\cdot 9H_2O\cdot 2MeCN\cdot EtOH$  (H<sub>L</sub> = a phenol-bridged N<sub>3</sub>O<sub>3</sub> Schiff-base cryptand), 3883

Macrocyclic dimeric vanadium(IV) and heterodinuclear vanadium(IV)–nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

Some new dipyridyl and diphenol bridging ligands containing oligothienyl spacers, and their dinuclear molybdenum complexes: electrochemical, spectroscopic and luminescence properties, 4257

Solution studies of copper(II) complexes as models for the active site in galactose oxidase, 4331

First-row transition-metal complexes of mixed ‘pendant-arm’ derivatives of 1,4,7-triazacyclononane containing phenolate and carboxylate functional groups, 4409

**PHENYL**

Deprotonation reactions of 2-thiouracil with [2-(pyridin-2-yl)-phenyl]mercury(II) acetate. Structural and spectroscopic effects, 1973

Synthesis, characterisation and substitution reactions of gold(III) C,N-chelates, 3185

**PHOSGENE**

Vanadium chloride and chloride oxide complexes in an ambient-temperature ionic liquid. The first use of bis(trichloromethyl) carbonate as a substitute for phosgene in an inorganic system, 2787

**PHOSPHATE**RbIn(OH)PO<sub>4</sub>: an indium(III) phosphate containing spirals of corner-sharing InO<sub>6</sub> octahedra, 815Na<sub>2</sub>Fe<sub>4</sub>(PO<sub>4</sub>)<sub>6</sub>: a mixed-valence iron phosphate containing a tetramer of edge-sharing FeO<sub>6</sub> octahedra, 819

**PHOSPHATE (contd)**

Intercalation of 1,4,10,13-tetraoxa-7,16-diazacyclooctadecane by  $\alpha$ - and  $\gamma$ -zirconium phosphates, 1245  
Synthesis of phosphate-phenylphosphonates of titanium(IV) and their *n*-butylamine intercalates, 2285  
Crystal structures of  $[NEt_3H]_5[XCo^{III}W_{11}O_{39}] \cdot 3H_2O$  ( $X = P$  or  $As$ ), 2537

Outer-sphere redox reactions of  $[Co^{III}(NH_3)_5(H_2P_2O_7)]^{(m-3)-}$  complexes. A temperature- and pressure-dependence kinetic study on the influence of the phosphorus oxoanions, 2665  
Zinc(II) complexes of tripodal ligands providing phenolate and pyridine donors: formation, structure and hydrolytic activity, 2857

Synthesis and characterization of an unusual lamellar aluminophosphate synthesized from an alcohol system, 3303

**PHOSPHAZANE**

The first crystal structures of mixed chalcogen derivatives  $SnR_2[(OPPh_2)(SPPh_2)N_2]$  ( $R = Me$  or  $Ph$ ), 391

**PHOSPHAZENE**

Synthesis and structure of small-molecule phosphazene rings bearing fused-ring aryloxy side groups: models for optically useful high polymers (1995, 3521), 2393

**PHOSPHIDE**

$(Hg_2P)_2HgBr_4$ : A phosphorus analogue of the Millon's base salts, 147  
Systematic synthesis of substituted hexanuclear phosphide- and phosphimidene-bridged osmium clusters, 755  
Systematic synthesis of hexanuclear phosphido-bridged osmium clusters; crystal and molecular structure of  $[Os_6(\mu-H)(CO)_{22-}(\mu-Ph_2)]$ , 1567  
Layers built from caesium cations and heptaphosphonotritycycane anions: synthesis and crystal structure of  $[NEt_3Me][Cs_2P_7] \cdot NH_3$  and  $[NEt_3][Cs_2P_7] \cdot 4NH_3$ , 1653  
Reactions of  $(F_3CP)_4$  and  $(F_3CP)_5$  with ruthenium and osmium carbonyl clusters: characterisation and crystal structures of the products, 3131  
Build-up of an  $Al_4P_4Li_4$  cage from an  $Al_4N_4$  cube: synthesis and structure of  $[Li(O(C_4H_9)_4][\{(AlMe)[\mu-P(C_6H_11)]_2[\mu-P(C_6H_11)]_2C_6H_11Me, 4153$

**PHOSPHINATE**

Extent of hydration of octadentate lanthanide complexes incorporating phosphinate donors: solution relaxometry and luminescence studies, 17  
The crystal structures of  $[NMMe_4][\{Me_2AsO_2\}(\text{MoO(O}_2)_2)_2]$ ,  $[NMMe_4][\{\text{Ph}_2PO_2\}(\text{MoO(O}_2)_2)_2]$ ,  $[NBu^+4][\{\text{Ph}_2PO_2\}(\text{WO(O}_2)_2)_2]$  and  $[NH_4][\{\text{Ph}_2PO_2\}(\text{MoO(O}_2)_2(\text{H}_2\text{O})]$  and their use as catalytic oxidants, 2039

Synthesis and solution complexation behaviour of tetradeятate diamines with hard phosphinate donors, 2693  
Getting excited about lanthanide complexation chemistry, 3613

**PHOSPHINE**

Reactions of the unsaturated alkyne cluster  $[Os_3(CO)_7(\mu-\eta^2-L-P_2Ph)(dpmm)]$  with P-donors; crystal structures of  $[Os_3(CO)_7(\text{Ph}_2PC_6H_5)(dpmm)\{P(\text{OMe})_2\}]$  and two isomers of  $[Os_3(CO)_7(\text{Ph}_2PC_6H_5)(dpmm)\{PBu_3\}]$  ( $dpmm = Ph_2PCH_2PPh_2$ ), 117  
9-Methyladenine complexes of platinum(II) stabilized by trimethylphosphine: use of  $^{15}\text{N}$  nuclear magnetic resonance spectroscopy to assign the co-ordination site, 299  
The novel structure of the  $[Au_{11}(\text{PMePh}_2)_{10}]^{13+}$  cation: crystal structures of  $[Au_{11}(\text{PMePh}_2)_{10}][C_2B_9H_{12}]$ , 4thf and  $[Au_{11}(\text{PMePh}_2)_{10}][C_2B_9H_{12}]$ , (thf = tetrahydrofuran), 479  
Synthesis and characterization of the centred icosahedral cluster series  $[Au_{18}M^{18-}Cl_6(\text{PMePh}_2)_6][C_2B_9H_{12}]$ , where  $M^{18-} = Au, Ag$  or  $Cu$ , 491  
Unexpected substitution reactions of bis(phosphine)platinum ethene complexes, 1039  
A unified mechanistic view obtained from the temperature and pressure dependence of the spontaneous, acid-, and base-assisted cyclometallation reactions of dirhodium(II) complexes, 1045  
Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni, 1093  
Complexes of electropositive metals with hemilabile ether phosphine. Crystal structures of  $[TiCl_4L]$ ,  $[FeL_2(O_2SCF_3)_2]$  and  $[Mo(CO)_3L]$  [ $L = PhCH_2P(CH_2CH_2OEt)_2$ ], 1105  
Ruthenium(II) complexes with a new potentially trifunctional phosphinoester and its enolate as ligands, 1153  
Direct formation of alcohols by hydrocarbonylation of alkenes under mild conditions using rhodium trialkylphosphine catalysts, 1161  
Synthesis, structures and redox properties of platinum metal phosphathia complexes: crystal structures of  $cis-[RuCl_2(RSC_2H_4SR)] \cdot 0.75Et_2O$  and  $cis-[RhCl_2(RSC_2H_4RS)]PF_6 \cdot CH_2Cl_2$  ( $R = Ph_2PCH_2CH_3$ ), 1261  
Synthesis and characterisation of mono- and di-nuclear mixed phosphathia complexes of gold(I): crystal structures of  $[Au(RSC_2H_4SR)]PF_6$ ,  $[Au(RSC_2H_4SR)]PF_6$  and  $[Au_2(RSC_2H_4SR)_2]Cl_2 \cdot 4CH_2Cl_2$ , 1267  
Late transition-metal complexes with the heterofunctional phosphine  $Ph_2PNHP(O)Ph_2$ , 1283  
Synthesis and characterization of square-planar palladium(II),

platinum(II) and rhodium(I) complexes with a chiral pyridyl-phosphine hybrid ligand, 1295

Synthesis, characterization and redox properties of mixed phosphine nitroruthenium(II) complexes. Crystal structure of  $trans-[Ru(NO_2)(terpy)(PMes_3)(PPh_3)][ClO_4] \cdot H_2O$ , 1463  
Angle-resolved X-ray photoelectron spectroscopic experiments on the full series of molecular  $[Au_{55}(PR_3)_2Cl]$  clusters, 1721  
Hydrocarbonylation of prop-2-en-1-ol to butane-1,4-diol and 2-methylpropan-1-ol catalysed by rhodium triethylphosphine complexes, 1793

Primary alkenyl phosphine complexes of chromium and molybdenum: synthesis and characterisation of tricarbonyl(1,5,9-triphosphacyclododecane)chromium(0), 1801

Reactions of di- and tri-nuclear palladium and platinum isocyanide complexes with highly basic and bulky aromatic phosphines containing methoxy groups at the 2 and 6 positions, 1815

Photoinduced electron transfer between  $[Cu(dmpn)_2]^+$  ( $dmpn = 2,9\text{-dimethyl-1,10-phenanthroline, L = }PPh_3(C_6H_4OMe-p)_3, n = 0-3$ ) and methyl viologen, 1909

Spectroscopic and structural studies on 1:2 adducts of silver(I) salts with tricyclohexylphosphine, 2449

Spectroscopic and structural studies on 1:1 adducts of silver(I) salts with tricyclohexylphosphine, 2459

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni (1996, 1093), 2585

Chelate-stabilized alkoxopalladium(II) complexes with chiral phosphine-substituted carbohydrate ligands, 2911

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of  $PPh_3$  with gold(I) halides; crystal structure of  $[AuBr(PMe_3)]$ , 3121

Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of  $[TiCl_4L]$ ,  $[FeL_2(O_2SCF_3)_2]$  and  $[Mo(CO)_3L]$  [ $L = PhCH_2P(CH_2CH_2OEt)_2$ ] (1995, 1105), 3163

Synthesis of heteronuclear compounds by use of  $[Ti(\eta^5-C_5H_5PPh_2)_2(SR)_2]$  ( $R = Et$  or  $Ph$ ) as metalloligands. Crystal structures of  $[Mo(CO)_4][\mu-(Ph_2PC_6H_5)_2Ti(SPh_2)_2]$  and  $[(OC)_4Mo(\mu-Ph_2PC_6H_5)_2Ti(\mu-SPh_2)Pt(C_6F_5)_2]$ , 3201

Synthesis and crystal structures of heterobimetallic 2-(diphenylphosphino)pyridine complexes containing an  $Fe \rightarrow M$  ( $M = Cu^+, Ag^+$  or  $Hg^{II}$ ) donor-acceptor bond and a mononuclear iron(II) complex bearing a pair of planar strained four-membered chelate rings, 3475

Reactivity of cyclopentadienyl and indenyl alkylcarbonyliron(II) complexes.  $\eta^5$  Species as key intermediates in the migratory insertion of carbon monoxide, 3527

Synthesis and characterisation of diphenylvinylphosphine-substituted osmium and ruthenium carbonyl clusters; crystal and molecular structures of  $[Os_3(CO)_11(Ph_2PCH=CH_2)]$  and  $[Os_3(\mu-H)(CO)(\mu-Ph_2PCH=CH_2)]$ , 3825

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of  $PPh_3$  with gold(I) halides; crystal structure of  $[AuBr(PMe_3)]$  (1996, 3121), 3897

Reversible adduct formation between phosphines and triarylboron compounds, 3931

Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphathia ligands and their chalcogenide derivatives, 4099

Investigation of the properties of tris(2-cyanoethyl)phosphine by electrospray and Fourier transform ion cyclotron resonance mass spectrometries, 4109

Second-order paramagnetic rhodium(III) complexes: solid-state structure and assignment of the carbon-13 magnetic resonance spectra in solution, 4563

**PHOSPHINE OXIDE**

Cationic, arylbismuth(III) complexes of the form  $[BiR_2L_2]^+$  and  $[BiRL_4]^{2+}$  where  $L$  is a neutral two-electron donor ligand, 443

Cationic, four-co-ordinate, bis(organotransition metal)bismuth(III) complexes, 455

Late transition-metal complexes with the heterofunctional phosphine  $Ph_2PNHP(O)Ph_2$ , 1283

Synthesis and structural characterization of  $[PtCl_2\{meso-Ph_2P(NH_2)CH_2CH_2P(OH)Ph\}]$  and structurally related derivatives, 1679

**PHOSPHINE SELENIDE**

Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphathia ligands and their chalcogenide derivatives, 4099

**PHOSPHINE SULFIDE**

Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphathia ligands and their chalcogenide derivatives, 4099

**PHOSPHINIC ACID**

Complexing properties of phosphinic analogues of glycine, 2685

**PHOSPHINIDENE**

Systematic synthesis of substituted hexanuclear phosphide- and phosphinidene-bridged osmium clusters, 755

**PHOSPHINIDENE** (contd)

Build-up of an  $\text{Al}_4\text{P}_2\text{Li}_4$  cage from an  $\text{Al}_4\text{N}_4$  cubeane: synthesis and structure of  $[\text{Li}(\text{OC}_4\text{H}_9)_4][\{\text{AlMe}(\mu-\text{PC}_6\text{H}_{11})\}_2(\mu-\text{PC}_6\text{H}_{11})]_2$ ,  $\text{C}_8\text{H}_8\text{Me}$ , 4153

**PHOSPHINITE**

Transition-metal complexation by calix[4]arene-derived phosphinites, 513

New rhodium complexes with phosphinite  $\text{PPh}_2\text{OR}$  or phosphonite  $\text{PPh}(\text{OR})_2$  ( $\text{R} = \text{Me}$ , Et or Pr) ligands: synthesis and protonation of various polyhydrides, 2779

Luminescent complexes containing a gold(I) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155

**PHOSPHINO**

Diphosphine derivatives of urea and thiourea, 3647

Synthesis and photophysics of dinuclear gold(I) thiolates of bis(diphenylphosphino)-alkyl- and -aryl-amines. Crystal structure of  $[\text{Au}_2(\text{Ph}_2\text{PN}(\text{C}_6\text{H}_{11}))\text{PPPh}_2](\text{SC}_6\text{H}_4\text{F}-p)_2$ , 4019

Co-ordination chemistry of a P,O-donor ligand: synthesis of new complexes of Ru, Rh and Ir containing  $\text{Ph}_2\text{PNHP}(\text{O})\text{Ph}_2$  or  $[\text{Ph}_2\text{PNP}(\text{O})\text{Ph}_2]^-$ , 4575

**PHOSPHINOENOLATE**

Ruthenium(II) complexes with a new potentially trifunctional phosphinoester and its enolate as ligands, 1153

Synthesis and reactivity of aryl- and alkyl-palladium(II) complexes with functional phosphines and phosphinoenolate ligands: first analogues of model nickel catalysts, 2903

Mixed iron-silicon-tin complexes stabilized by a phosphinoenolate bridging ligand. Crystal structure of  $[(\text{OC})_3(\text{MeO},\text{Si})-\text{Fe}(\mu-\text{Ph}_2\text{PCH}=\text{C}(\text{O})\text{Ph})\text{SnBu}_3^-]$ , 4365

**PHOSPHINOESTER**

Ruthenium(II) complexes with a new potentially trifunctional phosphinoester and its enolate as ligands, 1153

**PHOSPHINOETHER**

Synthesis and reactivity of cationic vinylidene and allenylidene ruthenium(II) complexes containing the phosphinoether  $\text{Pr}'\text{PCH}_2\text{CH}_2\text{OMe}$  as chelating ligand, 2275

**PHOSPHINOTHIOLATE**

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni, 1093

Co-ordination chemistry of tridentate phosphinothiolates; syntheses and structures of  $[\text{Li}_4(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{SiMe}_3-3)_2)_2(\text{MeOCH}_2\text{CH}_2\text{OMe})_2]$ ,  $[\text{Sn}_2\{\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{SiMe}_3-3)_2\}_2]$  and  $[\text{NHEt}_3][\text{Sm}(\text{PhP}(\text{C}_6\text{H}_5\text{S}-2-\text{R}-3)_2)_2(\text{py})_2\text{py}$  ( $\text{R} = \text{H}$  or  $\text{SiMe}_3$ ,  $\text{py} = \text{C}_5\text{H}_5\text{N}$ ), 1941

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni (1996, 1093), 2585

**PHOSPHINOYL**

2-(Diphenylphosphinoyl)propanoate complexes: crystal structure of tris[2-(diphenylphosphinoyl)propanoato]vanadium(III), 1087

Complexes of  $[\text{Ph}_2\text{P}(\text{O})\text{NP}(\text{E})\text{Ph}_2]^-$  ( $\text{E} = \text{S}$  or  $\text{Se}$ ): disparate ring conformations within a new palladacycle, 3659

(*R*) and (*S*)-2-Diphenylphosphinoyl-2'-hydroxy-1,1'-binaphthalene: versatile chiral bidentate ligands, 4449

**PHOSPHITE**

Tris(2-methoxyphenyl) phosphite complexes of platinum(II): the *cis* preference of triaryl phosphite ligands and the effect of oxidation state on metal-phosphite bonding, 1069

Crystal structures of  $[\text{Fe}_3(\text{CO})_9\{\text{P}(\text{OR})_3\}_3]$  ( $\text{R} = \text{Me}$  or  $\text{Pr}'$ ), 2159

Electron spin resonance study of the frozen-solution equilibrium  $[\text{Co}(\text{S}_2\text{C}_2(\text{CF}_3)_2)_2\text{L}] + \text{L} \rightleftharpoons [\text{Co}(\text{S}_2\text{C}_2(\text{CF}_3)_2)_2\text{L}_2]$  [ $\text{L} = \text{P}(\text{OR})_3$  or  $\text{PPh}(\text{OMe})_2$ ;  $\text{R} = \text{alkyl}$ ], 3503

Synthesis and crystal structure of a dinuclear rhodium complex.

Catalytic activity of mono- and di-nuclear rhodium phosphite complexes in hydroformylation, 3561

Mixed phosphito-phosphonato rhodium(I) complexes, 4357

**PHOSPHOLE**

Asymmetric syntheses, structures and co-ordination chemistry of palladium(II) complexes containing a chiral P,S hybrid bidentate ligand, 4433

**PHOSPHOLYL**

Syntheses and structural characterisation of  $[\text{Ir}_4(\text{CO})_{10}(\eta^1\text{-L})]$  and  $[\text{Ir}_4(\text{CO})_{10}(\eta^1\text{-L})_2]$  [ $\text{L} = [\text{Fe}(\eta^5\text{-P}_2\text{C}_2\text{Bu}'_2)(\eta^5\text{-P}_2\text{C}_2\text{Bu}'_3)]$  and  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\eta^2\text{-P}_2\text{C}_2\text{Bu}'_2)]$ ] and  $[\text{Ir}_4(\text{CO})_{10}\{\mu-\eta^1:\eta^1\text{-}[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\eta^5\text{-P}_2\text{C}_2\text{Bu}'_2)]\}]\text{Ir}_4(\text{CO})_{10}$ ] and its facile conversion to  $[\text{Ir}_4\text{H}(\text{CO})_{10}\{\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\eta^2\text{-P}_2\text{C}_2\text{Bu}'_2)\}\text{Ir}_4(\text{CO})_{10}]$ , via an unusual C-H activation, 739

**PHOSPHONATE**

Oxovanadium(IV) complexes of ligands containing phosphonic acid moieties, 87

Complexation properties of macrocyclic polyoxadiazaphosphonates, 1113

1-Hydroxyalkane-1,1-diylidiphosphonates as potent chelating agents for metal ions. Potentiometric and spectroscopic studies of copper(II) co-ordination, 1119

Oxovanadium(IV) complexes of ligands containing phosphonic acid moieties (1996, 87), 1779

Synthesis of phosphate-phenylphosphonates of titanium(IV) and their *n*-butylamine intercalates, 2285

Syntheses and characterization of binuclear Rh<sub>2</sub>, Ir<sub>2</sub> and RhIr complexes containing dimethyl phosphonate and pyrazolate bridging ligands, 2877

Eight-membered chelate-ring complexes of cobalt(III)-polyamine complexes of aminopolyphosphonates in aqueous solution, 3077

*Ab initio* structure solution of a novel aluminium methylphosphonate from laboratory X-ray powder diffraction data, 3159

Synthesis and structure of an organic-soluble cage aluminophosphonate, 3609

Mixed phosphito-phosphonato rhodium(I) complexes, 4357

Synthesis and characterization of dioxorhenium complexes derived from water-soluble diphosphine tetraphosphonates, 4459

**PHOSPHONIC ACID**

Zinc(II) complexes of phosphonic acid analogues of glutamic acid, 3455

**PHOSPHONITE**

New rhodium complexes with phosphinite  $\text{PPh}_2\text{OR}$  or phosphonite  $\text{PPh}(\text{OR})_2$  ( $\text{R} = \text{Me}$ , Et or Pr) ligands: synthesis and protonation of various polyhydrides, 2779

Electron spin resonance study of the frozen-solution equilibrium  $[\text{Co}(\text{S}_2\text{C}_2(\text{CF}_3)_2)_2\text{L}] + \text{L} \rightleftharpoons [\text{Co}(\text{S}_2\text{C}_2(\text{CF}_3)_2)_2\text{L}_2]$  [ $\text{L} = \text{P}(\text{OR})_3$  or  $\text{PPh}(\text{OMe})_2$ ;  $\text{R} = \text{alkyl}$ ], 3503

**PHOSPHONIUM**

Concerted supramolecular motifs: linear columns and zigzag chains of multiple phenyl embraces involving  $\text{Ph}_4\text{P}^+$  cations in crystals, 3755

Co-ordination chemistry of a P,O-donor ligand: synthesis of new complexes of Ru, Rh and Ir containing  $\text{Ph}_2\text{PNHP}(\text{O})\text{Ph}_2$  or  $[\text{Ph}_2\text{PNP}(\text{O})\text{Ph}_2]^-$ , 4575

**PHOSPHORUS**

Synthesis and structure of small-molecule phosphazene rings bearing fused-ring aryloxy side groups: models for optically useful high polymers (1995, 3521), 2393

Small-molecule model phosphazenes with *para*-substituted phenoxy side groups: synthesis, crystal structures and comparisons with corresponding high polymers, 3549

Reversible adduct formation between phosphines and triarylboration compounds, 3931

**PHOSPHORUS-31**

Eight-membered chelate-ring complexes of cobalt(III)-polyamine complexes of aminopolyphosphonates in aqueous solution, 3077

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of  $\text{PPh}_3$  with gold(I) halides; crystal structure of  $[\text{AuBr}(\text{PMc}_3)]$ , 3121

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of  $\text{PPh}_3$  with gold(I) halides; crystal structure of  $[\text{AuBr}(\text{PMc}_3)]$  (1996, 3121), 3897

**PHOSPHORYL**

Rare-earth-metal solvent extraction with calixarene phosphates, 1687

P-N-S-Se-containing metallacycles, 2893

Gas-phase, liquid and solid complexes in the  $\text{POCl}_3\text{-FeCl}_3$  system, 3405

Diphosphine derivatives of urea and thiourea, 3647

Co-ordination chemistry of a P,O-donor ligand: synthesis of new complexes of Ru, Rh and Ir containing  $\text{Ph}_2\text{PNHP}(\text{O})\text{Ph}_2$  or  $[\text{Ph}_2\text{PNP}(\text{O})\text{Ph}_2]^-$ , 4575

**PHOSPHORYLALKOXIDE**

Metal complexes of chiral phosphorylalkoxides: crystal structure of dichlorobis[(1*S*)-2-(diphenylphosphoryl)-1-methylethanolate]-titanium(IV), 1637

**PHOTOCHEMISTRY**

Structure, characterization and photoreactivity of monomeric dioxovanadium(V) Schiff-base complexes of trigonal-bipyramidal geometry, 93

Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(V) diphosphine complexes and related nitridorhenium(V) organometallics; crystal structure of  $[\text{Re}^{\text{V}}\text{N}(\text{C}=\text{CBu}')_3(\text{PPh}_3)_2]$ , 1125

Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(I) complex, 1769

Photoinduced electron transfer between  $[\text{Cu}(\text{dmphen})\text{L}]^+$  [ $\text{dmphen} = 2,9\text{-dimethyl-1,10-phenanthroline}$ ,  $\text{L} = \text{PPh}_3(\text{C}_6\text{H}_4\text{OMe}-p)_3$ , ( $n = 0-3$ )] and methyl viologen, 1909

Spectral and electrochemical recognition of halide anions by acyclic mononuclear ruthenium(II) bipyridyl receptor molecules, 2341

Photoluminescence, photoredox properties and crystal structures of rhodium(V)-benzylidene complexes with phosphine ligands, 2827

Photophysics and photochemical reactivities of organocopper(I) complexes. Crystal structure of  $[\text{Cu}_4(\text{PPh}_2\text{Me})_4(\mu,\eta^1\text{-C}=\text{CPh})_2]$ , 2889

Synthesis, structure, photophysics, time-resolved emission

**PHOTOCHEMISTRY (contd)**

spectroscopy and electrochemistry of luminescent copper(i) acetylides complexes, 3283  
Synthesis, photophysics and photochemistry of alkynylgold(i) phosphine complexes, 4227

**PHOTOCOCONDUCTIVITY**

Synthesis, electrochemistry and photoconductivity of oligo- and poly-(1,1'-dihexylferrocenylenes), 2929

**PHOTOELECTRON**

Electronic structure of thiaporphyrins: an X-ray photoelectron spectroscopic study, 1255  
Electronic structure of stable benzodiazasilenes: photoelectron spectra and quantum-chemical investigations, 1475  
Angle-resolved X-ray photoelectron spectroscopic experiments on the full series of molecular  $[Au_{35}(PR_3)_2Cl_2]$  clusters, 1721

**PHOTOPHYSICS**

Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(v) diphosphine complexes and related nitridorhenium(v) organometallics; crystal structure of  $[Re^VN(C\equiv CBu')_2(PPPh_3)_2]$ , 1125

Photoluminescent cyclometallated diplatinum(ii, ii) complexes: photophysical properties and crystal structures of  $[PtL(PPh_3)_2ClO_4]$  and  $[Pt_2L_2(\mu-dppm)][ClO_4]_2$  ( $HL = 6\text{-phenyl-}2,2'\text{-bipyridine}$ , dppm = Ph<sub>3</sub>PCH<sub>2</sub>PPh<sub>3</sub>), 1645

Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(i) complex, 1769

Synthesis and photophysics of tetracyanocopper(i) acetylides. Crystal structure of  $[Cu_4\{P(C_6H_4Me-p)\}_4(\mu_3-\eta^1-C\equiv CPh)_4]$ , 2335

Photophysics and photochemical reactivities of organocupper(i) complexes. Crystal structure of  $[Cu_2(PPh_2Me)_4(\mu_3-\eta^1-C\equiv CPh)_4]$ , 2889

Luminescent complexes containing a gold(i) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155

Synthesis, structure, photophysics, time-resolved emission spectroscopy and electrochemistry of luminescent copper(i) acetylides complexes, 3283

Synthesis, photophysics and electrochemistry of  $[Au_2(dppf)R_2]$  ( $dppf = Fe(n-C_6H_4PPh_3)_2$ ; R = alkyl, aryl or alkynyl). Crystal structure of  $[Au_2(dppf)(C_{16}H_9)_2]$  ( $C_{16}H_9 = \text{pyren-1-yl}$ ), 3411

Photophysical properties and crystal structures of luminescent phenylethyngold(i) complexes of alkyl and aryl isocyanides, 3699

Synthesis and photophysics of dinuclear gold(i) thiolates of bis(diphenylphosphino)-alkyl- and -aryl-amines. Crystal structure of  $[Au_2(PPh_2PN(C_6H_11)PPPh_2)(SC_6H_4F-p)_2]$ , 4019

Synthesis, photophysics and photochemistry of alkynylgold(i) phosphine complexes, 4227

**PICRATE**

Rare-earth-metal solvent extraction with calixarene phosphates, 1687

$\pi$  Stacking and the co-ordinate bond: sometimes conflicting factors in molecular recognition, as revealed in the structures of metal picrates, 3165

**PILLARING**

Structural studies of polyoxometalate-anion-pillared layered double hydroxides, 2963

**PIPERAZINE**

A reinforced polyaza[n,n]paracyclophe containing piperazine rings, 239

**PIPERIDINE**

Unidentate nitrogen base adducts of aluminium trichloride, 3297

**PIPERIDINIDE**

Preparation and structures of some new pyrrolidinido- and piperidinido-alanes and -aluminates, 211

**PIROXICAM**

Synthesis, crystal structure and molecular orbital investigation of the first platinum complex of piroxicam, 111

**PLATINUM**

Preparation of bis(phosphine)bis(selenocarboxylato)-nickel(ii), -palladium(ii) and -platinum(ii) complexes and their crystal structure analysis, 79

Synthesis, crystal structure and molecular orbital investigation of the first platinum complex of piroxicam, 111

Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149

Is the fluxional motion of bidentate 2,2':6,2"-terpyridine in *cis*- $[M(C_6F_5)_2(\text{terpy})]$  ( $M = \text{Pd}^{II}$  or  $\text{Pt}^{II}$ ) a dissociative process? A comment, 253

9-Methyladenine complexes of platinum(ii) stabilized by trimethylphosphine: use of  $^{13}\text{N}$  nuclear magnetic resonance spectroscopy to assign the co-ordination site, 299

Electrochemical and spectroelectrochemical studies on platinum complexes containing 2,2'-bipyridine, 329

Transition-metal complexation by calix[4]arene-derived phosphinites, 513

Unexpected substitution reactions of bis(phosphine)platinum ethene complexes, 1039

Tris(2-methoxyphenyl) phosphate complexes of platinum(ii): the *cis*

preference of triaryl phosphite ligands and the effect of oxidation state on metal-phosphite bonding, 1069

Synthesis and characterization of square-planar palladium(ii), platinum(ii) and rhodium(i) complexes with a chiral pyridyl-phosphine hybrid ligand, 1295

Hydroxymethyl bis(phosphines) and their palladium(ii) and platinum(ii) complexes formed via biphasic reactions. Crystal structure of  $[Pd((HOH_2C_2PC_6H_4P(CH_3OH)_2)_2Cl_2]$ , 1301

Tuning the reactivity of platinum(ii) complexes through cyclo-metallation. A comment, 1471

Tuning the reactivity of platinum(ii) complexes through cyclo-metallation. A reply, 1472

Photoluminescent cyclometallated diplatinum(ii, ii) complexes: photophysical properties and crystal structures of  $[PtL(PPh_3)_2ClO_4]$  and  $[Pt_2L_2(\mu-dppm)][ClO_4]_2$  ( $HL = 6\text{-phenyl-}2,2'\text{-bipyridine}$ , dppm = Ph<sub>3</sub>PCH<sub>2</sub>PPh<sub>3</sub>), 1645

Synthesis and structural characterization of  $[PtCl_2\{meso\text{-}Ph(HOPCH}_2\text{CH}_2\text{P(OH)Ph}\}]$  and structurally related derivatives, 1679

Cationic platinum(ii) complexes: platinum-alkyl bond cleavage by a powerful Lewis acid, 1809

Reactions of di- and tri-nuclear palladium and platinum isocyanide complexes with highly basic and bulky aromatic phosphines containing methoxy groups at the 2 and 6 positions, 1815

Heteronuclear Pt-Pd, Pt-Cu and Pt-Ni complexes with bridging acetamide: crystal structures and spectroscopic studies, 1823

Synthesis and electrospray mass spectrometry of platinum(ii) complexes of 5,5-dithiobarbituric acid (Hdebarb); crystal structure of *cis*- $[PtCl(\text{debarb})(PPh_3)_2]$ -CH<sub>2</sub>Cl<sub>2</sub>, 1897

Bis(carboxylato) complexes of platinum(ii). Structural and bonding analysis of  $[Pt(O_2CR)_2(L-L)]$  ( $L-L = 2\text{PPh}_3$ , Ph<sub>3</sub>PCH<sub>2</sub>PPh<sub>3</sub> or Fe(C<sub>6</sub>H<sub>5</sub>PPh<sub>2</sub>)<sub>2</sub>; R = Me, CF<sub>3</sub>, Pr or Ph), 2207

The interaction between cytochrome c and *trans*- $[PtCl_2(NH_3)_2]$ , 2223

Synthesis and characterization of cationic dinuclear complexes of platinum with bridging hydrides; crystal structures of  $[Pt_2(\mu\text{-H})_2\{C_6H_{11}\}_2P(CH_3)_2P(C_6H_{11})_2][BF_4]_2$ , 2315

First examples of polymetallic mixed-metal (Pt-Ag) complexes containing single acetamide bridges: *cis*- $[(NH_3)_2Pt(NHCOMe)_2Ag]NO_3\cdot 4H_2O$  and *trans*- $[(NH_3)_2Pt(NHCOMe)_2Ag]NO_3\cdot 5H_2O$ , 2329

Dinuclear nucleobase-anion-bridged complexes of Pd<sup>II</sup> and Pt<sup>II</sup> with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409

Synthesis, structure and reactivity of homo- and hetero-polynuclear complexes of platinum bearing C≡CR groups as unique bridging ligands, 2587

Stabilization of monofunctional platinum-nucleotide adducts: reactions of N-acetyl-L-methionine complexes with guanosine 5'-monophosphate and guanylyl(3'-5')guanosine, 2867

Synthesis, platinum-195 nuclear magnetic resonance spectroscopic and extended X-ray absorption fine structure studies on platinum(ii) and -(iv) thioether macrocyclic complexes, 2979

Kinetics and mechanism of complexation of *trans*- $[PtCl(NH_3)_2(H_2O)]$  with inosine and 1-methylinosine in aqueous solution at different pH values, 3101

Dimetallic gold(i) and platinum(ii) complexes containing a trioxosmium(VIII) moiety. Crystal structures of  $[Au(PPh_3)(NO_3)_2]$  and *cis*- $[Pt(PMe_3)_2(NO_3)_2]$ , 3153

Synthesis of heteronuclear compounds by use of  $[\text{Ti}(\text{N}-C_6H_4PPh_2)_2(\text{SR})_2]$  ( $\text{R} = \text{Et}$  or  $\text{Ph}$ ) as metallocigands. Crystal structures of  $[(\text{Mo}(\text{CO})_6)_2(\mu\text{-Ph}_2\text{PC}_6\text{H}_4)_2\text{Ti}(\text{SPPh}_2)_2]$  and  $[(\text{OC})_4\text{Mo}(\mu\text{-Ph}_2\text{PC}_6\text{H}_4)_2\text{Ti}(\mu\text{-SPPh}_2)\text{Pt}(\text{C}_6\text{F}_5)_2]$ , 3201

Conformational polymorphism and fluxional behaviour of M(PR<sub>3</sub>)<sub>2</sub> unit in *cis*-twelve-atom metallaheteroboranes with MX<sub>2</sub>B<sub>3</sub> ( $X = \text{C}$  or  $\text{As}$ ) and MZB<sub>10</sub> cages ( $Z = \text{S}$ ,  $\text{Se}$  or  $\text{Te}$ ), 3323

Synthesis and characterization of nickel-gold bis(dithiocroconate) complexes and dicyanomethylene-substituted analogues, 3507

Synthesis and nuclear magnetic resonance investigation of 1-phenylpropane-1,2-dione 2-oxime complexes of trimethyl-platinum(IV), 3543

Diphosphine derivatives of urea and thiourea, 3647

2,4-Diferrocenyl-1,3-dithiadiphosphetane 2,4-disulfide: structure and reactions with catechols and  $[PtCl_2(\text{PR}_3)_2]$  ( $\text{R} = \text{Et}$  or  $\text{Bu}^+$ ), 3653

Complexes of  $[\text{Ph}_2\text{P}(\text{O})\text{NP}(\text{E})\text{Ph}_2]$  ( $\text{E} = \text{S}$  or  $\text{Se}$ ): disparate ring conformations within a new palladacycle, 3659

S-aminooxotriphosphite, a versatile ligand with the ability to exhibit differing co-ordination and hydrogen-bonding modes: synthesis and crystal structures of platinum(ii) complexes, 3805

Formation of  $[\text{CoPt}_2\text{Cl}_2(\text{PPh}_3)_4(\mu\text{-S})_2]$  from facile heterometallation of  $[\text{Pt}_2(\text{PPh}_3)_4(\mu\text{-S})_2]$  and its facile deheterometallation via carbonylative desulfurization to give Pt-Pt bonded  $[\text{Pt}_2(\text{CO})_4(\text{PPh}_3)_2(\mu\text{-S})]$ , 4023

A chiral tetrานuclear platinum(ii) cluster complex,  $[\text{Pt}_4(\text{O}_2\text{CMe})_6(\text{pro})_4]$  ( $\text{Hpro} = \text{l-proline}$ ), 4031

Entrapment of a Pt-H bond by a cavity-shaped receptor, 4041

Synthesis, molecular structure and palladium(ii) and platinum(ii) complex chemistry of 3-(ferrocen-1-yl)-1-(pyridin-2-yl)pyrazole, 4055

**PLATINUM (contd)**

New preparative access to and the crystal and molecular structures of *cis*-[PtCl<sub>2</sub>(CO)<sub>2</sub>]<sub>n</sub>, 4317

**PLATINUM-195**

Synthesis, platinum-195 nuclear magnetic resonance spectroscopic and extended X-ray absorption fine structure studies on platinum-(II) and -(IV) thioether macrocyclic complexes, 2979

**POLYESTER**

Study of a solid-state polymerisation reaction: thermal elimination of NaCl from sodium chloroacetate, 11

**POLYMER**

One-, two- and three-dimensional copper(I) and silver(I) complexes of 2,11-dithia-[3.3]paracyclophane, 1525

Discrete dinuclear and polymeric copper(I) cations bridged by 4,4'-bipyridine, *trans*-1,2-bis(4-pyridyl)ethene or bis(4-pyridyl) disulfide, 1947

Self-assembly of copper(I) complexes into three-dimensional co-ordination polymers with channel networks by hydrogen bonding or by tridentate ligands, 2031

Structural chemistry of triorganotin fluorides. The crystal structure of tricyclohexyltin fluoride revisited, 2123

Oxidation of the pyrazine(pyz)-bridged polymeric copper(I) cation [Cu(cnge)(MeCN)(pyz)]<sup>2+</sup> by NOBF<sub>4</sub> and formation of the corresponding copper(II) cation [Cu(MeCN)<sub>4</sub>(pyz)]<sup>2+</sup> (cnge = 2-cyanoguanidine), 2323

First examples of polymeric mixed-metal (Pt–Ag) complexes containing single acetamido bridges: *cis*-[(NH<sub>3</sub>)<sub>2</sub>Pt(NHCOMe)<sub>2</sub>Ag]<sup>+</sup>NO<sub>3</sub>·4H<sub>2</sub>O and *trans*-[(NH<sub>3</sub>)<sub>2</sub>Pt(NHCOMe)<sub>2</sub>Ag]<sup>+</sup>NO<sub>3</sub>·1.5H<sub>2</sub>O, 2329

Synthesis and structure of small-molecule phosphazene rings bearing fused-ring aryloxy side groups: models for optically useful high polymers (1995, 3521), 2393

Synthesis, electrochemistry and photoconductivity of oligo- and poly-(1,1'-dihexylferrocenylenes), 2929

Small-molecule model phosphazenes with *para*-substituted phenoxy side groups: synthesis, crystal structures and comparisons with corresponding high polymers, 3549

**POLYMER FILM**

Electrosynthesis and co-ordination chemistry of polymer films coated on electrode surfaces from pyrrole polypyridyls, 2503

Mode of formation of polymeric [Ru(bipy)(CO)<sub>2</sub>]<sub>n</sub> (bipy = 2,2'-bipyridine) films, 2581

**POLYMERISATION**

Study of a solid-state polymerisation reaction: thermal elimination of NaCl from sodium chloroacetate, 11

Group 4 metal alkoxide complexes as catalysts for olefin polymerization, 219

Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255

New mono- and bi-nuclear *ansa*-metallocenes of zirconium and hafnium as catalysts for the polymerisation of ethene and propene, 921

Bis(chelated) palladium(II) complexes with a diphosphine and a dinitrogen ligand: very efficient catalyst precursors in the co- and ter-polymerisation of CO and olefins, 3139

Molybdenum(III) chloride-tetrahydrothiophene (ht) complexes in the catalytic polymerization and cyclotrimerization of alkynes: structures and reactivities of the possible intermediates [MoCl<sub>3</sub>(ht)(PhC≡CR)] (R = Me or Et), 4533

**POLYMORPHISM**

Synthesis and characterization of alkoxo-oxygen-bridged copper(II) complexes having disc- and rod-like shapes, 1761

Polymerism, structures and phase transformation of K<sub>2</sub>[SO<sub>4</sub>]F, 2497

Conformational polymorphism and fluxional behaviour of M(PR<sub>3</sub>)<sub>2</sub> units in *cis*-twelve-atom metallaheteroboranes with MX<sub>2</sub>B<sub>9</sub> (X = C or As) and MZB<sub>10</sub> cages (Z = S, Se or Te), 3323

**POLYSTYRENE**

Synthesis and reactions of polymer-supported dicarbonyl(dienyl)-(triphenylphosphine)iron(0) complexes, 3747

**PORPHYRINATE**

Synthesis, structure, magnetic, spectroscopic and electrochemical behaviour of chloro-iron(III) and -manganese(III) complexes of 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrin, 2799

Crystal structure of high-spin (*S* =  $\frac{5}{2}$ ) manganese(II) 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrinate, 3243

**PORPHYRIN**

Intermediate-spin iron(III) octaethyltetraazaporphyrinates with weakly co-ordinating anions: synthesis, characterization and crystal structure, 1249

Electronic structure of thiaporphyrins: an X-ray photoelectron spectroscopic study, 1255

*meso*-Substituted octabromoporphyrins: synthesis, spectroscopy, electrochemistry and electronic structure, 3429

Comparative study of Mössbauer spectra of iron(III) complexes of *para*-substituted tetraphenylporphyrins. Electronic effects of substituents and axial ligands, 1519

Mössbauer and electron paramagnetic resonance studies on some new bis(ligated) porphyrinatoiron(III) complexes with aliphatic amines. Models for cytochromes b, 2361

Synthesis and electrochemistry of 2,3,7,8,12,13,17,18-octachloro-5,10,15,20-tetrakis(3,5-dichloro-2,6-dimethoxyphenyl)porphyrin (H<sub>2</sub>tdcdmpp), [Co<sup>II</sup>(tdcdmpp)] and [M(tdcdmpp)Cl] (M = Fe<sup>III</sup> or Mn<sup>III</sup>), 2793

Synthesis, structure, magnetic, spectroscopic and electrochemical behaviour of chloro-iron(III) and -manganese(III) complexes of 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrin, 2799

Crystal structure of high-spin (*S* =  $\frac{5}{2}$ ) manganese(II) 2,3,7,8,12,13,17,18-octakis(ethylsulfanyl)-5,10,15,20-tetraazaporphyrinate, 3243

Molecular structure of [Tl(tpp)(O<sub>2</sub>CCF<sub>3</sub>)<sub>2</sub>] and <sup>19</sup>F dynamic nuclear magnetic resonance of it and [Tl(tmpp)(O<sub>2</sub>CCF<sub>3</sub>)<sub>2</sub>] (tpp = 5,10,15,20-tetraphenylporphyrinate, tmpp = 5,10,15,20-(4-methoxyphenyl)porphyrinate], 3787

**POTENTIAL ENERGY**

Prediction of crystal structures, 2077

**PROTEIN**

Kinetic studies on the redox reactions of *Clostridium pasteurianum* rubredoxin, 2219

The interaction between cytochrome c and *trans*-[PtCl<sub>2</sub>(NH<sub>3</sub>)<sub>2</sub>], 2223

Electron self-exchange and cross-reaction studies on wild-type *Clostridium pasteurianum* rubredoxin and its Val-8→Glu variant, 4287

**PROTONATION**

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles, 1753

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles (1995, 1753), 3163

The reaction of HCl with [MoH<sub>3</sub>(CCBu)(Ph<sub>3</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>3</sub>)<sub>2</sub>]: enforced protonation at the metal gives an alkyne, 3397

A potentiometric and spectroscopic study of copper(II) diimidodiamino complexes, 4605

**PURINE**

Synthesis and stereochemistry of cobalt(III) complexes containing purine-6-thione and related ligands, 305

**PYRANONE**

Synthesis and reactivity of arereneruthenium pyranone and pyridinone complexes, 1399

**PYRAZINE**

Synthesis of the new binucleating compound pyrazin-2-yl 2-pyridyl sulfide for stepwise or direct approach to asymmetric binuclear ruthenium(II) complexes, 885

Oxidation of the pyrazine(pyz)-bridged polymeric copper(I) cation [Cu(cnge)(MeCN)(pyz)]<sup>2+</sup> by NOBF<sub>4</sub> and formation of the corresponding copper(II) cation [Cu(MeCN)<sub>4</sub>(pyz)]<sup>2+</sup> (cnge = 2-cyanoguanidine), 2323

Electron-transfer reactions in [Ru(edta)(pyz)]<sup>-</sup> (edta = ethylene-dinitrioltetraacetate, pyz = pyrazine), 4389

**PYRAZOLE**

Selectivity design using interligand contact: solvent extraction and structures of first-series-transition metal-bis(pyrazol-1-yl)borate complexes, 195

Nuclear magnetic resonance studies of molecular dynamics at below-ambient temperatures and crystal structures, 203

Structure, characterisation and dynamics of copper(I) complexes of 2,6-bis(3,5-dimethylpyrazol-1-yl-methyl)pyridine, 371

Heteroleptic poly(pyrazolyl)borate derivatives of the lanthanides. Structural and electronic spectral studies of some salicylaldehyde complexes, 501

Unusual binding of exogenous anions in some lead(II) complexes with a functionalized macrocycle, 1173

Structural variations in nickel(II) and copper(II) MN<sub>4</sub> Schiff-base complexes with deprotonated tetradentate *N,N'*-bis(5-amino-pyrazol-4-ylmethylene)polymethylenediamine ligands, 1215

Polymeric pyrazolato complexes. Synthesis, chemical reactivity and crystal structures of [Pd(dmpz)<sub>2</sub>(Hdmpz)<sub>2</sub>]<sub>n</sub> and [PdAg(dmpz)<sub>2</sub>]<sub>n</sub> (Hdmpz = 3,5-dimethylpyrazole), 1351

Synthesis, crystal structure and luminescence properties of a europium(III) complex with a new planar aromatic tridentate N<sub>3</sub> ligand, 1767

Homo- and hetero-dinuclear metal complexes of bridging ligands containing phenol and azole moieties. Structure, spectroscopy, electrochemistry and magnetochemistry, 2371

Trichloro-, mono-, di- and tri-organo-tin(IV) derivatives of hydridotris(4-methylpyrazol-1-yl)borates, 2475

Synthesis and co-ordination of 1,4,7,10-tetraazacyclododecanes disubstituted with imidazole and pyrazole, 2679

Syntheses and characterization of binuclear Rh<sub>2</sub>, Ir, and RhIr complexes containing dimethyl phosphonate and pyrazolate bridging ligands, 2877

**PYRAZOLE (contd.)**

Synthesis and solution fluxionality of rhenium(i) carbonyl complexes of 2,4,6-tris(pyrazolyl)pyrimidines (*L*),  $[ReX(CO)_3L]$  (*X* = Cl, Br or I). Isolation and identification of the dinuclear complex  $[(ReBr(CO)_3)_2L]$ , 3065

Synthesis and solution fluxionality of rhenium(i) carbonyl complexes of 2,4,6-tris(pyrazol-1-yl)-1,3,5-triazines (*L*),  $[ReX(CO)_3L]$  (*X* = Cl, Br or I). Characterization of  $[(ReX(CO)_3)_2L]$  (*X* = Cl or Br), 3371

Nickel(II)  $N_3O_2$  Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437

Reactivity studies of  $\eta^2$ -acyl complexes of molybdenum. Kinetics of  $\eta^2$ -acyl to  $\eta^2$ -iminoacyl isomerization in their reactions with isocyanides, 3687

A pyrazolate-bridged cyclic tetrานuclear copper(II) complex: synthesis, crystal structure and magnetic properties, 3799

Synthesis, molecular structure and palladium(II) and platinum(II) complex chemistry of 3-(ferrocen-1-yl)-1-(pyridin-2-yl)pyrazole, 4055

Ruthenium tris(pyrazolyl)borate complexes. Formation and characterization of acetone, dimethylformamide and vinylidene complexes containing N,N-donor co-ligands, 4071

Some new dipyridal and diphenol bridging ligands containing oligothienyl spacers, and their dinuclear molybdenum complexes: electrochemical, spectroscopic and luminescence properties, 4257

Crystal structure, magnetic properties and spectroscopic studies of bis[1,3-bis(pyrazol-3-yl)triazenido]dicopper(II) trihydrate: a dinuclear complex with an asymmetric double pyrazolate bridge, 4275

Models of the active sites of zinc-containing enzymes: the structure of acetato[hydrotris(3-*tert*-butyl-5-methylpyrazol-1-yl)borato]zinc(II), 4283

Syntheses and electrochemistry of bimetallic complexes containing cyclohexanediolate or cyclopentanediolate bridges, 4401

Preparation and characterization of carbene complexes of iron from azoyl and thiényl precursors, 4431

**PYRIDAZINE**

Discrete dinuclear and polymeric copper(I) cations bridged by 4,4'-bipyridine, *trans*-1,2-bis(4-pyridyl)ethene or bis(4-pyridyl) disulfide, 1947

Synthesis and structure of dilead(II) and dimanganese(II) complexes of macrocycles derived from 3,6-diformylpyridazine, 2117

Nitrate- and nitrite-ligated 3,6-bis(imidazolyl)pyridazine-bridged dinuclear copper(II) cations with copper-copper separations similar to that in *Achromobacter cycloclastes* nitrite reductase, 4295

**PYRIDINE**

Structure, characterisation and dynamics of copper(I) complexes of 2,6-bis(3,5-dimethylpyrazol-1-ylmethyl)pyridine, 371

Crystal structures and luminescence spectra of ten-co-ordinate lanthanide(III) complexes (*Ln* = Ce, Sm, Eu or Tb) with 2,6-bis(benzimidazol-2-yl)pyridine (1994, 2523), 553

Stabilisation of unusual simultaneous binding of four cytosine nucleobases to copper(II) by a novel network of bifurcated hydrogen bonding, 1333

Covalently linked anthracene-containing supramolecular complexes of triosmium carbonyl clusters: synthesis, crystal structures and solvatochromic behaviour, 1853

Equilibria and rates of olefin substitution in zerovalent palladium complexes containing a 2-pyridylmethanamine ligand, 1921

Synthesis, characterisation and superoxide dismutase activity of a manganese(II) complex, 2019

Electrochemical synthesis and crystal structure of silver(I) complexes with some heterocyclic thiones, 2047

An unusual anionic oxo-( $\mu$ -oxo)-vanadium(V) network interlinked by cationic sodium chains, 2111

Carbonylation of hydrocarbylpalladium(II) complexes containing substituted pyridinecarboxylate chelating ligands. Steric and electronic manipulation of the CO-insertion mechanism, 2197

2,2':6,2":6,2"-Quaterpyridine (qtpy): a versatile ligand in metallosupramolecular chemistry; crystal and molecular structures of  $[Ni(qtpy)(OH)_2]_2[BF_4]_2$ ,  $[Pd(qtpy)]_2[PF_6]_2$ ,  $[Cu_2(qtpy)_2]_2[PF_6]_2$  and  $[Ag_2(qtpy)_2]_2[BF_4]_2$ , 2423

Synthesis, structure and magnetic properties of the first two-dimensional infinite sheet-like mixed-valence manganese(II,III) complex with bridging salicylate and pyridine-2-carboxylate ligands, 2735

Unidentate nitrogen base adducts of aluminium trichloride, 3297

Synthesis and crystal structures of heterobimetallic 2-(diphenylphosphino)pyridine complexes containing an Fe $\rightarrow$ M (*M* = Cu<sup>I</sup>, Ag<sup>I</sup> or Hg<sup>II</sup>) donor-acceptor bond and a mononuclear iron(II) complex bearing a pair of planar strained four-membered chelate rings, 3475

Influence of solvent polarity from water to toluene on the co-ordination of pyridines by the cobalt(III) corrinoid sulfitocobyrinic acid heptamethyl ester, 3721

A convenient high yield synthesis of 2,2':6,2":6,2":6,2"-sexypyridine and helical transition-metal complexes of substituted sexypyridines, 4207

Solution studies of copper(II) complexes as models for the active site in galactose oxidase, 4331

Tetraaza macrocycles containing pyridine and their copper(II) and nickel(II) complexes: X-ray, spectroscopic, molecular mechanics and molecular orbital studies, 4543

**PYRIDINIUM**

Luminescent complexes containing a gold(I) chromophore with covalently-linked anthracene or pyridinium acceptors, 3155

**PYRIDINONATE**

Synthesis and reactivity of areneruthenium pyranone and pyridinone complexes, 1399

**PYRIDINOPHANE**

Synthesis, magnetism, electrochemistry and reactivity of dinuclear vanadium(III) complexes of a macrocyclic tetraimine Schiff base, 1223

**PYRIDONE**

Diron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties, 321

Self-assembly of copper(I) complexes into three-dimensional co-ordination polymers with channel networks by hydrogen bonding or by tridentate ligands, 2031

Diron(III) and polymeric iron(III)-sodium complexes with bridging and terminal pyridonate ligands: structures and magnetic properties (1996, 321), 2394

Synthesis, structural characterisation and nuclear magnetic resonance studies of cobalt complexes of pyridonate ligands, 3575

Uncapped and polar capped prisms of cobalt and nickel, 3745

Synthesis, structural characterisation, electron paramagnetic resonance and magnetic studies of homoleptic copper complexes of pyridonate ligands, 4077

**PYRIDYL**

Synthesis of the new binucleating compound pyrazin-2-yl 2-pyridyl sulfide for stepwise or direct approach to asymmetric binuclear ruthenium(II) complexes, 885

Synthesis and characterization of square-planar palladium(II), platinum(II) and rhodium(I) complexes with a chiral pyridyl-phosphine hybrid ligand, 1295

Raman spectroelectrochemical studies and crystal structure of a binuclear copper(I) complex with a bridging diimine ligand, 1591

Structural, spectroscopic and angular-overlap studies of tripodal pyridine ligands with nickel(II) and zinc(II), 1845

Discrete dinuclear and polymeric copper(I) cations bridged by 4,4'-bipyridine, *trans*-1,2-bis(4-pyridyl)ethene or bis(4-pyridyl) disulfide, 1947

Formation of axial phenolate–metal bonds in square-pyramidal complexes, 2233

Novel triosmium cluster complexes with rod-like molecular geometry. Syntheses and crystal structures of  $[Os_3(\mu-H)_2(CO)_6(\mu-CNC_2H_4CH=NC_2H_4OC_2H_3)_3]$  and  $[Os_3(\mu-H)_2(CO)_6(\mu-NC_2H_4CH=NC_2H_4OC_2H_3)_3]$ , 2293

Dinuclear nucleobase-anion-bridged complexes of Pd<sup>II</sup> and Pt<sup>II</sup> with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409

Synthesis, structure, spectra and redox chemistry of iron(III) complexes of tridentate pyridyl and benzimidazolyl ligands, 2519

Novel, selective and co-operative assembly of cyclodextrins around [1,8-bis(pyridin-2-yl)-3,6-dithiaoctane]copper(II), 2609

Zinc(II) complexes of tripodal ligands providing phenolate and pyridine donors: formation, structure and hydrolytic activity, 2857

Copper(II) and cobalt(II) complexes of methyl 2-pyridyl ketone thiosemicarbazone (HL); single-crystal structure of  $[Cu(HL)]_{n}NCs$ , 3011

Monomeric, N-functionalised amido complexes of aluminium: synthesis of  $[\bar{A}Cl\{NR(8-C_9H_8N)\}_2]$  (*R* = H or SiMe<sub>3</sub>) and  $[\bar{A}(N(2-C_9H_8N)(2-C_9H_8N))_3]$ , 3053

Synthesis and structures of copper(II) anion-bridged aggregates and chains: control over molecular shape, 3173

Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated  $[M_3(\mu-H)(CO)_{10}(\mu-NC_2H_4)]$  (*M* = Ru or Os) and ferrocene chromophores bridged by an aromatic unit, 3209

Synthesis and structural characterization of the new quadridentate N,S-compound di-2-pyridyl ketone thiosemicarbazone and its binuclear copper(II) complexes, 3485

Isolation of two geometrical isomers of bis( $\mu$ -acetato)-( $\mu$ -oxo)diron(II) complexes with tridentate ligands and their activities for functionalization of cyclohexane in the presence of hydrogen peroxide, 4037

**PYRIDYL (contd)**

Synthesis, molecular structure and palladium(II) and platinum(II) complex chemistry of 3-(ferrocenyl-1-yl)-1-(pyridin-2-yl)pyrazole, 4055  
 Some new dipyridyl and diphenol bridging ligands containing oligothienyl spacers, and their dinuclear molybdenum complexes: electrochemical, spectroscopic and luminescence properties, 4257  
 Syntheses and crystal structures of phenyl(2-pyridyl)amido complexes of zirconium(IV), niobium(V) and tantalum(V), 4345  
 Chemical origin of high activity in oxygenation of cyclohexane by  $H_2O_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

**PYRIMIDINE**

Molecular recognition of 2,6-diaminopyridine by platinum orotate complexes, 149  
 Deprotonation reactions of 2-thiouracil with [2-(pyridin-2-yl)-phenyl]mercury(II) acetate. Structural and spectroscopic effects, 1973  
 Barbituric acid as a new locking fragment in macrocyclization; synthesis and structural characterization of aqua(perchlorato)-(2',4',6'-trioxohydroxypyrimidine-5'-spiro-6-1,4,8,11-tetraazacyclotetradecane)copper(II) perchlorate hydrate, 2017  
 Important role of CH-π interaction in linkage isomers of bis(2,2'-bipyridine)ruthenium(II) complexes with pyrimidine-2-thione and related ligands, 2851  
 Synthesis and solution fluxionality of rhenium(I) carbonyl complexes of 2,4,6-tris(pyrazolyl)pyrimidines (L),  $[ReX(CO)_3L]$  ( $X = Cl, Br$  or I). Isolation and identification of the dinuclear complex  $[ReBr(CO)_3]_2L$ , 3065  
 5-Aminoorotic acid, a versatile ligand with the ability to exhibit differing co-ordination and hydrogen-bonding modes: synthesis and crystal structures of platinum(II) complexes, 3805

**PYRIMIDINETRIONATE**

Synthesis and electrospray mass spectrometry of platinum(II) complexes of 5,5-diethylbarbituric acid (Hdebarb); crystal structure of *cis*-[PtCl(debarb)(PPh<sub>3</sub>)<sub>2</sub>] $\cdot$ CH<sub>2</sub>Cl<sub>2</sub>, 1897

**PYRROLE**

Rhodium(I) complexes containing the enolate of *N*-acetyl-3-butanoyletramic acid (Habta) and the crystal structure of  $[Rh(abta)(P(OPh)_3)_2]$ , 1701  
 Electrosynthesis and co-ordination chemistry of polymer films coated on electrode surfaces from pyrrole polypyridyls, 2503  
 Syntheses, characterization and structural chemistry of biladien-*ac*-10-one and -*bc*-5-one metal complexes with 4N or (3N + O) co-ordination, 3937

**PYRROLIDINIDE**

Preparation and structures of some new pyrrolidinido- and piperidinido-alanes and -aluminates, 211

**PYRROLIDINONE**

Structural and spectroscopic studies on 36-membered ring arrays formed by copper(II) halides with 1-(4-picolyl)pyrrolidin-2-one, 4245

**QUANTUM-CHEMICAL CALCULATIONS**

Electronic structure of stable benzodiazasilylenes: photoelectron spectra and quantum-chemical investigations, 1475

**QUATERPYRIDINE**

2,2',6',2":6",2"-Quaterpyridine (qtpy): a versatile ligand in metallosupramolecular chemistry; crystal and molecular structures of  $[Ni(qtpy)(OH_2)_2][BF_4]_2$ ,  $[Pd(qtpy)][PF_6]_2$ ,  $[Cu_2(qtpy)_2][PF_6]_2$  and  $[Ag_2(qtpy)_2][BF_4]_2$ , 2423

**QUINOLINE**

Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(I) complex, 1769  
 Unidentate nitrogen base adducts of aluminium trichloride, 3297

**QUINOLYL**

Monomeric, N-functionalised amido complexes of aluminium: synthesis of  $[AlCl\{NR(8-C_9H_6N)\}_2]$  ( $R = H$  or SiMe<sub>3</sub>) and  $[Al\{N(2-C_5H_4N)(2-C_5H_4N)\}_3]$ , 3053

**QUINONE**

Oxidative-addition reactions on planar chlorinate rhodium systems. Crystal structure of  $[Rh_2(\mu-C_6Cl_2O_4)Me_2L_2(CO)_2(PPh_3)_2]$ , 2155  
 Electron-transfer salts derived from *N,N'*-dicyano-*p*-benzoquinone diimines and the novel dinuclear organometallic donor  $[Fe_2(\eta-C_5Me_5)_2(\mu-SEt)_2(CO)_2]$ , 3533

**QUINONIDE**

Synthesis and characterisation of quinonide bridged dinuclear complexes of titanium and zirconium, 913

**QUINOXALINE**

Raman spectroelectrochemical studies and crystal structure of a binuclear copper(I) complex with a bridging diimine ligand, 1591

**QUINQUEPYRIDINE**

Monohelical quinquepyridine complexes of rhenium-(I) and -(III), 1411  
 Substituent-controlled assembly of helical complexes: synthesis, crystal and molecular structures of double helical silver(I) complexes with substituted quinquepyridines, 2309

**RADICAL**

An improved synthesis of SF<sub>5</sub>(CN) and its cycloaddition reaction with SNSAsF<sub>6</sub>. Crystal structure of F<sub>5</sub>SCNSNSAsF<sub>6</sub> and electron spin resonance spectrum of F<sub>5</sub>SCNSNS<sup>+</sup>, 383  
 Kinetics and mechanism of the cobaloxime(II)-catalysed oxidation of 2-aminophenol by dioxygen. A phenoxazinone synthase model involving free-radical intermediates, 473

**RAMAN**

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of PPh<sub>3</sub> with gold(I) halides; crystal structure of  $[AuBr(PMe_3)]$ , 3121  
 The monophenylhydrosilasesquioxanes PhH<sub>n-1</sub>Si<sub>n</sub>O<sub>1.5n</sub> where  $n = 8$  or 10, 3313  
 Gas-phase, liquid and solid complexes in the POCl<sub>3</sub>-FeCl<sub>3</sub> system, 3405

Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>2</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenabis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit-2I<sub>2</sub> and ebit-2I<sub>2</sub>, 3583

Studies on the thermal decomposition of basic lead(II) carbonate by Fourier-transform Raman spectroscopy, X-ray diffraction and thermal analysis, 3639

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of PPh<sub>3</sub> with gold(I) halides; crystal structure of  $[AuBr(PMe_3)]$  (1996, 3121), 3897

**RECEPTOR**

Entrapment of Pt-H bond by a cavity-shaped receptor, 4041

**RECYCLING**

Novel amphiphilic diphosphines: synthesis, rhodium complexes, use in hydroformylation and rhodium recycling, 2143

**REDOX POTENTIAL**

Copper-(I) and -(II) complexes with tertiary linear polyamines of the type Me<sub>2</sub>NCH<sub>2</sub>(CH<sub>2</sub>NMeCH<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>NMe<sub>2</sub> ( $n = 1-4$ ), 2055

Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067

Synthesis and electrochemistry of 2,3,7,8,12,13,17,18-octachloro-5,10,15,20-tetrakis(3,5-dichloro-2,6-dimethoxyphenyl)porphyrin (H<sub>2</sub>tdcdmp), [Co<sup>0</sup>(tdcdmp)] and [M(tdcdmp)Cl] ( $M = Fe^{III}$  or Mn<sup>III</sup>), 2793

**RELAXATION**

Silicon-29 and oxygen-17 relaxation in H<sub>6</sub>Si<sub>3</sub>O<sub>12</sub> in solution, 1597

Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating O<sub>4</sub>N<sub>2</sub><sup>-</sup>, O<sub>2</sub>S<sub>2</sub>N<sub>2</sub><sup>-</sup> and S<sub>2</sub>N<sub>2</sub>-donor sets, 3591

**RELAXOMETRY**

Extent of hydration of octadentate lanthanide complexes incorporating phosphinate donors: solution relaxometry and luminescence studies, 17

**RESONANCE RAMAN**

Surface-enhanced resonance-Raman scattering: an informative probe of surfaces, 791

Raman spectroelectrochemical studies and crystal structure of a binuclear copper(I) complex with a bridging diimine ligand, 1591

**RHENIUM**

Nuclear magnetic resonance studies of molecular dynamics at below-ambient temperatures and crystal structures, 203

Synthesis and reactivity of η<sup>2</sup>(4e)-alkyne and η<sup>2</sup>(3e)-vinyl complexes of rhenium, 415

Syntheses, electrochemistry, photophysics and photochemistry of nitridorhenium(V) diphosphine complexes and related nitridorhenium(V) organometallics; crystal structure of [Re<sup>V</sup>N(C≡CBu')<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>], 1125

Monohelical quinquepyridine complexes of rhenium-(I) and -(III), 1411

New mixed carbonyl-nitro and -nitrito complexes of manganese and rhenium, 1419

Synthesis and reactivity of hydrogen-rich uranium-rhenium compounds; an unsuspected detrimental effect of alkali-metal halide on chemical metathesis, 1487

Isolation, structure and spectroscopic properties of [Re<sub>2</sub>(C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>]<sup>2-</sup> complexes and electrical conductivities of their oxidized species, 1539

Spectroscopic titration of [Re<sub>4</sub>(μ<sub>3</sub>-H)<sub>4</sub>(CO)<sub>12</sub>] with chloride ions. An electron-precise tetrานuclear cluster as intermediate in the transformation of a tetranuclear unsaturated cluster into trinuclear unsaturated anions, 1771

Deprotonation reactions of the aminocarbene complex *trans*-[ReCl(CN<sub>2</sub>H<sub>2</sub>)(dppe)<sub>2</sub>][BF<sub>4</sub>]<sup>-</sup> (dppe = Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>).

Synthesis and properties of the cyano-complexes *trans*-[Re(CN)L(dppe)<sub>2</sub>] ( $L = NCR$ , N<sub>2</sub>, CO or C=CHPh) and crystal structure of *trans*-[Re(CN)(NCMe)(dppe)<sub>2</sub>]PrOH, 2763

New rhenium complexes with phosphinite PPh<sub>2</sub>OR or phosphonite PPh(OR)<sub>2</sub> ( $R = Me$ , Et or Pr) ligands: synthesis and protonation of various polyhydrides, 2779

**RHENIUM (contd)**

Photoluminescence, photoredox properties and crystal structures of rhenium(v)-benzylidyne complexes with phosphine ligands, 2827  
 Fourier-transform infrared study of short-lived highly reduced dithiolen complexes by potential-modulation spectro-electrochemical techniques, 2945  
 Reactions of electrophiles with  $[(Bu^{\prime}N)_2Re^{V\prime}(\mu-NBu^{\prime})]_2$ , 2995  
 Synthesis and solution fluxionality of rhenium(I) carbonyl complexes of 2,4,6-tris(pyrazolyl)pyrimidines (L),  $[ReX(CO)_3L]$  ( $X = Cl, Br$  or I). Isolation and identification of the dinuclear complex  $[(ReBr(CO)_3)_2L]$ , 3065  
 Co-ordination chemistry of S-methyl 2-methyldithiocarbazate and formation of  $[M=N]^{3+}$  ( $M = Tc$  or Re) species, 3105  
 Synthesis and solution fluxionality of rhenium(I) carbonyl complexes of 2,4,6-tris(pyrazolyl-1-yl)-1,3,5-triazines (L),  $[ReX(CO)_3L]$  ( $X = Cl, Br$  or I). Characterization of  $[(ReX(CO)_3)_2L]$  ( $X = Cl$  or Br), 3371  
 Rapid and mild synthesis of  $[Re_2(CO)_6]$  by reduction of  $[NH_3][ReO_4]$  at atmospheric CO pressure, 3611  
 On the design of high co-ordination number metal-based liquid crystals: mesomorphic bipyridine complexes of rhenium(I), 3913  
 Synthesis and characterization of dioxorhenium complexes derived from water-soluble diphosphine tetraphosphonates, 4459  
 Second-order paramagnetic rhenium(III) complexes: solid-state structure and assignment of the carbon-13 magnetic resonance spectra in solution, 4563

**RHODIUM**

Preparation, crystal structure and mechanism of formation of a novel dinuclear carbopentazane complex,  $[Rh_2(PPh_3)_4(NH_2NH)_2CH_3][NO_3]$ , 61  
 Synthesis, characterisation and molecular structures of the *cis*- and *pseudo**cis* heptamethylenyl carborhadoboranes 1- $Ph$ -3-( $\eta^5$ -C<sub>5</sub>Me<sub>5</sub>)-3,1,2-*cis*- $Rh_2B_9H_{10}$  and 1,2- $Ph_2$ -3-( $\eta^5$ -C<sub>5</sub>Me<sub>5</sub>)-3,1,2-*pseudo**cis*- $Rh_2B_9H_8$ . Experimental assignment of the <sup>11</sup>B NMR spectrum of a *pseudo**cis* carbamatellaborane, 335  
 Complexes of rhodium with thiobis(ethylenetrifluoroacetyl)tetraacetic acid; a potential bifunctional chelate for use in radiotherapy, 467  
 Transition-metal complexation by calix[4]arene-derived phosphinates, 513  
 Cluster core geometrical variation in heterometallic boride clusters containing RhRu<sub>4</sub> skeletons: crystal structures of  $[RhRu_4H_2(\eta^5-C_5Me_5)(\mu-Cl)(CO)]_2B$  and  $[RhRu_4H(nbd)(CO)]_2B(AuPPh_3)$  ( $nbd$  = norbornadiene), 603  
 Stabilizing structure of tertiary amine-protected rhodium colloid dispersions in chloroform, 783  
 Synthesis and characterization of rhodium complexes containing atropisomeric sulfur ligands. Structure of  $[(Rh_2(\mu-L)(CO)_7-P(O-C_6H_4Bu^{\prime}-o)_3]_2$  ( $H_2L = 1,1'$ -binaphthalene-2,2'-dithiol), 969  
 A unified mechanistic view obtained from the temperature and pressure dependence of the spontaneous, acid-, and base-assisted cyclometallation reactions of dirhodium(II) complexes, 1045  
 Kinetic and thermodynamic studies of intramolecular rearrangement and cleavage of the heterobinuclear aqua ion,  $[(H_2O)_2Rh(\mu-OH)Cr(OH_2)]^{4+}$ , 1051  
 Direct formation of alcohols by hydrocarbonylation of alkenes under mild conditions using rhodium trialkylphosphine catalysts, 1161  
 Synthesis, structure and reactivity of the thioether half-sandwich rhodium(III) complex  $[RhCl(MeCN)_2(9-JaneS_3)][CF_3SO_3]$  ( $[9-JaneS_3] = 1,4,7$ -trithiacyclononane), 1237  
 Synthesis, structures and redox properties of platinum metal phosphatite complexes: crystal structures of *cis*- $[RuCl_2(RSC_2H_4SR)]$ -0.75Et<sub>2</sub>O and *cis*- $[RhCl_2(RSC_2H_4RS)]PF_6$ -CH<sub>2</sub>Cl<sub>2</sub> ( $R = Ph, PCH_2CH_3$ ), 1261  
 Synthesis and characterization of square-planar palladium(II), platinum(II) and rhodium(I) complexes with a chiral pyridyl-phosphine hybrid ligand, 1295  
 Rhodium(I) complexes containing the enolate of *N*-acetyl-3-butanoylethanedioic acid (Habta) and the crystal structure of  $[Rh(abta)(P(OPh)_3)_2]$ , 1701  
 Macropolyhedral boron-containing cluster chemistry. *syn*- and *anti*- $[(C_5Me_5)_2Rh-S_2B_{15}H_{14}(OH)]$ ; an interesting nineteen-vertex isomeric pair, 1775  
 Hydrocarbonylation of prop-2-en-1-ol to butane-1,4-diol and 2-methylpropan-1-ol catalysed by rhodium triethylphosphine complexes, 1793  
 Novel amphiphilic diphosphines: synthesis, rhodium complexes, use in hydroformylation and rhodium recycling, 2143  
 Oxidative-addition reactions on planar chloranilate rhodium systems. Crystal structure of  $[Rh_2(\mu-C_6Cl_2O_4)Me_2I_2(CO)_2(PPh_3)_2]$ , 2155  
 Methanol carbonylation revisited: thirty years on, 2187  
 Electrosynthesis and co-ordination chemistry of polymer films coated on electrode surfaces from pyrrole polypyridyls, 2503  
 Triazene-bridged dirhodium complexes containing redox-active cyanomanganese ligands, 2511  
 Guanidine anions as chelating ligands; syntheses and crystal

structures of  $[Rh(\eta^5-C_5Me_5)\{\eta^2-(NPh)_2CNHPh\}Cl]$  and  $[Ru(\eta^5-C_5Me_5Pr^{\prime}-p)\{\eta^2-(NPh)_2CNHPh\}Cl]$ , 2839

Syntheses and characterization of binuclear Rh<sub>2</sub>, Ir<sub>2</sub> and RhIr complexes containing dimethyl phosphonate and pyrazolate bridging ligands, 2877

Reactions of  $[RhRu_2H(\eta^5-C_5Me_5)(CO)_2BH_2]$  with didentate phosphines and the synthesis and crystal structure of  $[RhRu_2H_2(\eta^5-C_5Me_5)(CO)_2(\mu-dppf)(P,P)AuB]$  [ $dppf = 1,1'$ -bis(diphenylphosphino)ferrocene], 2917

Carbon-fluorine and -hydrogen bond activation and carbon-carbon bond formation in  $\eta^5$ -pentamethylcyclopentadienyl-rhodium and -iridium phosphine complexes; crystal structures of  $[M(\eta^5-C_5Me_5)Cl](C_6F_5)_2PCH_2CH_2P(C_6F_5)_2]^{+}BF_4^{-}$  ( $M = Rh$  or Ir), 3215

Synthesis and crystal structure of a dinuclear rhodium complex. Catalytic activity of mono- and di-nuclear rhodium phosphite complexes in hydroformylation, 3361

Synthesis and characterisation of selenoether macrocyclic complexes of Co<sup>III</sup>, Rh<sup>III</sup> and Ir<sup>III</sup>; crystal structures of *trans*- $[CoBr_2([16]aneSe_4)]BPPh_4$  and *trans*- $[IrBr_2([16]aneSe_4)]BPPh_4$  ( $[16]aneSe_4 = 1,5,9,13$ -tetraselenacyclohexadecane), 3713

Reactions of imido complexes of iridium, rhodium and ruthenium, 3771

Preparation and characterization of rhodium(III) complexes containing 1,1,1-tris(dimethylphosphinomethyl)ethane (tdmme). Structures of  $[RhX_3](tdmme)$  ( $X = Cl, Br$  or I),  $[Rh(NH_3)_3](tdmme)$ <sup>3+</sup> and  $[(Rh(tdmme))_2(\mu-X)]^{3+}$  ( $X = Cl$  or OH) in the solid state and in solution, 3779

Mixed phosphito-phosphonato rhodium(I) complexes, 4357

Co-ordination chemistry of a P,O-donor ligand: synthesis of new complexes of Ru, Rh and Ir containing  $Ph_2PNHP(O)Ph_2$  or  $[Ph_2PNP(O)Ph_2]$ , 4575

Group 9 metal 1,1'-bis(phosphino)ferrocene complexes: synthesis, structures, solution conformation and unusual reactivity, 4633

**RUBREDOXIN**

Kinetic studies on the redox reactions of *Clostridium pasteurianum* rubredoxin, 2219

Electron self-exchange and cross-reaction studies on wild-type *Clostridium pasteurianum* rubredoxin and its Val-8 → Glu variant, 4287

**RUTHENIUM**

Redox considerations for a ruthenium complex catalysis of substrate oxidation by hydrogen peroxide in aqueous solution, 105

Synthesis and characterisation of *pseudo**clos* iridium and ruthenium diphenyl carbaboranes. Molecular structures of 1,2- $Ph_2-3-(\eta^5-C_5H_5)-3,1,2$ -*pseudo**clos*- $RuC_2B_9H_8$  and 1,2- $Ph_2-3-(cym)-3,1,2$ -*pseudo**clos*- $RuC_2B_9H_8$  ( $cym = p$ -cymene) and individual gauge for localised orbital calculations on carbamatellaboranes, 231

Formation of *N*-imidoylimidatoruthenium(II) complexes via ruthenium-promoted hydration of nitriles, 291

Synthesis of new half-sandwich ruthenium complexes containing 1,2-bis(isopropylphosphino)ethane (dippe); crystal structures of  $[Ru(C_5Me_5)Cl(dippe)]$  and  $[Ru(C_5Me_5)(O_2)(dippe)]BPPh_4$ , 377

Cluster core geometrical variation in heterometallic boride clusters containing RhRu<sub>4</sub> skeletons: crystal structures of  $[RhRu_4H_2(\eta^5-C_5Me_5)(\mu-Cl)(CO)]_2B$  and  $[RhRu_4H(nbd)(CO)]_2B(AuPPh_3)$  ( $nbd$  = norbornadiene), 603

Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[MM^{\prime}Ru_4H_2(\mu-dppf)(CO)]_2$  ( $M = M' = Cu, Ag$  or Au;  $M = Cu, M' = Au$ ;  $dppf = Fe(\eta^5-C_5H_5)_2PPh_2$ ) and the crystal structures of  $[MM^{\prime}Ru_4H_2(\mu-dppf)(CO)]_2$  ( $M = Cu$  or Au,  $M' = Au$ ), 643

Laser-desorption mass spectrometry of  $[Ru_6C(CO)]_7$  and its derivatives: cluster aggregation in the gas phase, 771

New tricks for an old ligand: cyclometallated and didentate coordination of 2,2'-6,2'-terpyridine to ruthenium(II), 873

Mono- and di-nuclear ruthenium(II) complexes of the ambidentate ligand 3,3'-dihydroxy-2,2'-bipyridine: spectroscopic, electrochemical and mixed-valence properties, 879

Synthesis of the new binucleating compound pyrazin-2-yl 2-pyridyl sulfide for stepwise or direct approach to asymmetric binuclear ruthenium(II) complexes, 885

Linking and fragmentation of alkynes at a triruthenium centre, 975

Dinuclear thioether half-sandwich ruthenium(II) complexes of the types  $[(RuL^{\prime}(9-JaneS_3))_2(\mu-L)]^{3+}$  ( $L^{\prime} = PPh_3$ ;  $n = 2$ ,  $L^{\prime} = MeCN$ ),  $[(Ru(9-JaneS_3))_2(\mu-L)]^{3+}$  and  $[(Ru(9-JaneS_3))_2(\mu-L)]^{+}$  with heterocyclic thioamide L ( $[9-JaneS_3] = 1,4,7$ -trithiacyclononane), 989

Oxidation behaviour of the unsaturated diruthenium species  $[Ru_2(\mu_4-CO)_2(CO)_2(\mu-(PrO)_2PNEt_2P(OPr)_2)]_2$ , 1031

New ruthenium-tin clusters with bulky ligands. Crystal and molecular structures of  $[Ru_2(CO)_2(\mu-SnR_2)(\mu-Ph_2PCH_2PPh_2)]$ ,  $[Ru_2(CO)_2(\mu-SnR_2^{\prime})_2]$ ,  $[Ru_2(CO)_2(\mu-SnR_2)(\mu-SnR_2^{\prime})_2]$  and  $[Ru_2(CO)_2(\mu-SnR_2)(\mu-SnR_2^{\prime})_2]$  [ $R = CH(SiMe_3)_2$ ,  $R^{\prime} = C_6H_5Pr^{\prime}_2$ , 2,4,6], 1133

**RUTHENIUM (contd)**

Ruthenium(II) complexes with a new potentially trifunctional phosphinoester and its enolate as ligands, 1153

Synthesis, structures and redox properties of platinum metal phosphaphia complexes: crystal structures of *cis*-[RuCl<sub>2</sub>(RSC<sub>2</sub>H<sub>4</sub>-SR)<sub>2</sub>]·0.75Et<sub>2</sub>O and *cis*-[RhCl<sub>2</sub>(RSC<sub>2</sub>H<sub>4</sub>RS)]PF<sub>6</sub>·CH<sub>2</sub>Cl<sub>2</sub> (R = Ph, P(=O)(CH<sub>2</sub>)<sub>2</sub>), 1261

Synthesis and reactivity of arereneruthenium pyranone and pyridinone complexes, 1399

Control of the co-ordination mode of 1,8-naphthyridine ligated to ruthenium(II) bipyridine complexes, 1405

Synthesis and structure of [Ru<sub>3</sub>(CO)<sub>9</sub>(μ-H)(μ<sub>3</sub>-η<sup>2</sup>-PhCH<sub>2</sub>CH<sub>2</sub>C≡NPh)], a product of an 'intramolecular' hydrogen-transfer reaction, 1429

Synthesis, characterization and redox properties of mixed phosphine nitro Ruthenium(II) complexes. Crystal structure of *trans*-[Ru(NO<sub>2</sub>)<sub>2</sub>(terpy)(PMe<sub>2</sub>)(PPh<sub>3</sub>)][ClO<sub>4</sub>]<sub>2</sub>·H<sub>2</sub>O, 1463

Synthesis, properties, stereochemistry and crystal structures of diastereomeric benzene–ruthenium(II) complexes with a chiral salicylideneaminato ligand, 1499

Synthesis of 1,3-diaryltriazenido triruthenium and triosmium clusters: crystal structures of [Ru<sub>3</sub>(μ-H)(CO)<sub>10</sub>(μ-C<sub>6</sub>F<sub>5</sub>NNNC<sub>6</sub>F<sub>5</sub>)<sub>2</sub>] and [Os<sub>3</sub>(CO)<sub>10</sub>Cl(η<sup>3</sup>-C<sub>6</sub>F<sub>5</sub>NNNC<sub>6</sub>F<sub>5</sub>)<sub>2</sub>], 1573

Synthesis, characterization and crystal structures of a series of ruthenium μ<sub>4</sub>-nitrene carbonyl clusters, 1707

Triosmium and triruthenium clusters containing the 4-methyl-thiazolidine ligand: crystal structures of [Os<sub>3</sub>(μ-H)(CO)<sub>10</sub>-(μ-2,3-η<sup>2</sup>-C≡NCMe=CH<sub>2</sub>)], [Os<sub>3</sub>(μ-H)(CO)<sub>9</sub>(μ-2,3-η<sup>2</sup>-C≡NCMe=CH<sub>2</sub>)(PPh<sub>3</sub>)<sub>2</sub>] and [Os<sub>3</sub>(μ-H)(CO)<sub>9</sub>(μ-2,3-η<sup>2</sup>-C≡NCMe=CH<sub>2</sub>)(PPh<sub>3</sub>)<sub>2</sub>], 1731

Syntheses, structures and electrochemical properties of single and double helical inorganic complexes containing new polypyridine ligands, 1829

Reactions of [Ru(bipy)(CO)<sub>2</sub>Cl<sub>2</sub>] in aqueous HX and HX–HNO<sub>3</sub> solutions (X = F, Br or I; bipy = 2,2'-bipyridine), 1927

Bis(acetylidyne) complexes of ruthenium, 2011

Kinetic studies on the redox reactions of *Clostridium pasteurianum* rubredoxin, 2219

Synthesis and reactivity of cationic vinylidene and allenylidene ruthenium(II) complexes containing the phosphinoether Pr<sub>2</sub>P(=O)CH<sub>2</sub>CH<sub>2</sub>OMe as chelating ligand, 2275

Spectral and electrochemical recognition of halide anions by acyclic mononuclear ruthenium(II) bipyridyl receptor molecules, 2341

Hydrogen-bond recognition of nucleosides by oligopyridine ligands and their ruthenium complexes, 2389

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of [Mo<sub>2</sub>Ru<sub>2</sub>(μ<sub>3</sub>-S)(μ-SPr)<sub>2</sub>(CO)(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>], 2403

Dinuclear alkoxide-bridged ruthenium(II) complexes with Class III mixed-valence states: a structural and spectroelectrochemical study, 2527

Unsaturated ether chelate complexes of ruthenium(II), 2571

Mode of formation of polymeric [(Ru(bipy)(CO)<sub>2</sub>)<sub>n</sub>] (bipy = 2,2'-bipyridine) films, 2581

Guanidine anions as chelating ligands: syntheses and crystal structures of [Rh(η-C<sub>5</sub>Me<sub>5</sub>)(η<sup>2</sup>-(NPh)<sub>2</sub>CNHPH)Cl] and [Ru(η-MeC<sub>6</sub>H<sub>4</sub>Pr<sup>t</sup>-p)(η<sup>2</sup>-(NPh)<sub>2</sub>CNHPH)Cl], 2839

Important role of CH–π interaction in linkage isomers of bis(2,2'-bipyridine)ruthenium(II) complexes with pyrimidine-2-thione and related ligands, 2851

Reactions of [RhRu<sub>2</sub>H(η<sup>5</sup>-C<sub>5</sub>Me<sub>5</sub>)(CO)<sub>6</sub>BH<sub>2</sub>] with didentate phosphines and the synthesis and crystal structure of [RhRu<sub>2</sub>H(η<sup>5</sup>-C<sub>5</sub>Me<sub>5</sub>)(CO)<sub>6</sub>(μ-dppf-P<sub>2</sub>PAuB)] (dppf = 1,1'-bis(diphenylphosphino)ferrocene), 2917

Reactions of (F<sub>3</sub>CP)<sub>n</sub> and (F<sub>3</sub>CP)<sub>n</sub> with ruthenium and osmium carbonyl clusters: characterisation and crystal structures of the products, 3131

Codimerisation of CO and a 1,3-diynyl–metal complex on an Ru<sub>3</sub> cluster, 3151

Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated [M<sub>3</sub>(μ-H)(CO)<sub>10</sub>-(μ-NC<sub>5</sub>H<sub>4</sub>)] (M = Ru or Os) and ferrocene chromophores bridged by an aromatic unit, 3209

Activation of the N–H bond of ethyl carbamate and urea by ruthenium hydride complexes. Unexpected loss of alcohol or ammonia to yield isocyanato complexes, 3221

Reactions of cyano-iron and -ruthenium compounds with *gem*-dicyanoepoxides. A new pathway to vinyl isocyanide complexes of iron and ruthenium, 3231

Synthesis, crystal structure and redox properties of μ-oxo-bis(μ-acetoato)diruthenium(III) complexes having 2,2'-bipyridine and imidazole bases as terminal ligands, 3289

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of [Mo<sub>2</sub>Ru<sub>2</sub>(μ<sub>3</sub>-S)(μ-SPr)<sub>2</sub>(CO)<sub>4</sub>(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>] (1996, 2403), 3341

Syntheses, structures and chemistry of the high-nucularity ruthenium hydrido cluster anions [Ru<sub>10</sub>H<sub>2</sub>(CO)<sub>25</sub>]<sup>2-</sup> and [Ru<sub>11</sub>H(CO)<sub>27</sub>]<sup>3-</sup>, 3515

Reactions of imido complexes of iridium, rhodium and ruthenium, 3771

Synthesis and characterisation of diphenylvinylphosphine-substituted osmium and ruthenium carbonyl clusters; crystal and molecular structures of [Os<sub>3</sub>(CO)<sub>11</sub>(Ph<sub>2</sub>P(=O)CH=CH<sub>2</sub>)] and [Os<sub>3</sub>(μ-H)(CO)(μ-Ph<sub>2</sub>P(=O)CH=CH<sub>2</sub>)]<sub>2</sub>, 3825

Synthesis and crystal structures of two isomers of [Ru<sub>4</sub>(CO)<sub>6</sub>(μ-C<sub>15</sub>H<sub>20</sub>)], 3833

Disfunctionalised arene Ru<sub>6</sub>C cluster compounds with electron-withdrawing groups, 3837

Structural and nuclear magnetic resonance studies of triosmium and triruthenium carbonyl cluster derivatives containing pentaphenylcyclopentaphosphane, 3843

Synthesis, characterization and molecular structure of a triruthenium carbonyl cluster containing both phenylimido and nitrosobenzene ligands, 3911

Axial ligand substitutions in *trans*-bis[1,2-phenylenebis-(dimethylsilyl)] complexes of ruthenium(II), 3917

Synthesis and characterisation of the chloride-bridged copper-ruthenium cluster dianion [[Ru<sub>6</sub>Cu<sub>2</sub>C(CO)<sub>16</sub>]<sub>2</sub>Cl]<sup>2-</sup>, 4033

Synthesis and crystal structures of η<sup>2</sup>-sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes *via* sulfenamido rearrangement, 4063

Ruthenium tris(pyrazolyl)borate complexes. Formation and characterization of acetone, dimethylformamide and vinylidene complexes containing N,N-donor co-ligands, 4071

Synthesis and reactivity of the formally co-ordinatively unsaturated diruthenium hydride [Ru<sub>2</sub>(μ-H)(μ-CO)(CO)<sub>3</sub>(μ-(PrO)<sub>2</sub>P(=O)Pr<sub>2</sub>)<sub>2</sub>]<sup>+</sup> and its co-ordinatively saturated parent [Ru<sub>2</sub>H(CO)<sub>5</sub>(μ-(PrO)<sub>2</sub>P(=O)Pr<sub>2</sub>)<sub>2</sub>]<sup>+</sup>, 4171

Versatile ligand behaviour of phenyl 2-pyridyl ketone benzoylhydrazone in palladium(II) complexes, 4239

Ruthenium(II) complexes of some new polynucleating ligands incorporating terpyridyl and macrocyclic aza-crown binding sites, 4249

Oxidative addition of disferrocenyl dichalcogenides to [(Ru(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>Cl)<sub>2</sub>]. Syntheses, crystal structures and some reactivities of [Ru(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)Cl(μ-ER)<sub>2</sub>] (E = S, Se or Te; R = ferrocenyl), 4307

Electron-transfer reactions in [Ru(edta)(pyz)]<sup>-</sup> (edta = ethylene-dinitrioltetraacetate, pyz = pyrazine), 4389

Use of [Ru(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)(MeCN)<sub>2</sub>]<sup>+</sup> as a capping reagent in cluster build-up: synthesis and structural characterisation of [Os<sub>2</sub>Ru<sub>2</sub>(CO)<sub>6</sub>(η<sup>3</sup>-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>], 4509

Co-ordination chemistry of a P,O-donor ligand: synthesis of new complexes of Ru, Rh and Ir containing Ph<sub>2</sub>PNP(O)Ph<sub>2</sub> or [Ph<sub>2</sub>PNP(O)Ph<sub>2</sub>]<sub>n</sub>, 4575

Thermolytic reaction of 1,4-diisopropenylbenzene with [Ru<sub>3</sub>(CO)<sub>12</sub>]: an arene ligand as a template for cluster formation, 4621

Synthesis, characterization and molecular structure of two Ru<sub>4</sub> clusters with β-alkylstyrene ligands, 4629

**SALICYLALDEHYDATE**

Heteroleptic poly(pyrazolyl)borate derivatives of the lanthanides. Structural and electronic spectral studies of some salicylaldehyde complexes, 501

**SALICYLATE**

Synthesis, structure and magnetic properties of the first two-dimensional infinite sheet-like mixed-valence manganese(II,III) complex with bridging salicylate and pyridine-2-carboxylate ligands, 2735

**SALT OCCLUSION**

A route to the dispersion of ultrafine cobalt particles on zeolite Na-X through salt occlusion and reduction, 775

**SANDWICH COMPLEX**

Synthesis, structure and reactivity of the thioether half-sandwich rhodium(III) complex [RhCl(MeCN)<sub>2</sub>(η<sup>5</sup>Janes<sub>3</sub>)][CF<sub>3</sub>SO<sub>3</sub>]<sub>2</sub> ([η<sup>5</sup>Janes<sub>3</sub>] = 1,4,7-trithiacyclononane), 1237

New class of mixed sandwich cycloheptatrienylchromium complex: crystal structures of the redox pair [Cr(η-C<sub>5</sub>H<sub>4</sub>Me-4)][PF<sub>6</sub>]<sub>n</sub> (n = 1 or 2), 4035

**SCHIFF BASE**

Structure, characterization and photoreactivity of monomeric dioxovanadium(V) Schiff-base complexes of trigonal-bipyramidal geometry, 93

Chemistry of oxovanadium(V) alkoxides: synthesis and structure of mononuclear complexes incorporating ethane-1,2-diol, 99

Copper(I) and -(II) complexes of a macrocycle derived from 2:2 condensation of pyridine-2,6-dicarbaldehyde and 4-azapeptane-1,7-diamine; oxygenation of the copper(I) complex, 167

Preparation and reactivities of chiral manganese(III) and copper(II) complexes of binaphthyl Schiff bases, 405

The preparation and crystal and molecular structures of new luminescent Schiff-base complexes featuring coupled lanthanide(III) cations, 961



**SILICON-29**

Silicon-29 and oxygen-17 relaxation in  $H_8Si_8O_{12}$  in solution, 1597  
X-Ray diffraction and solid-state nuclear magnetic resonance study of a silicate containing two different nitrogenous cations, 3349

**SILOXANE**

Silicon-29 and oxygen-17 relaxation in  $H_8Si_8O_{12}$  in solution, 1597  
The monophenylhydrosilasesquioxanes  $PhH_{n-1}Si_nO_{1.5n}$  where  $n = 8$  or 10, 3313  
Cyclic and open-chain derivatives of bis(trihydrosilyl)benzenes, 4193

**SILOXANEDIOLATE**

Formation of ring-expanded products from certain combinations of tetraphenylsiloxanediolates  $[Ph_2SiOM]_2$  ( $M^+$  = Li or Na) and Group 4 metal chlorides  $MCi_4$ , 1449

**SILOXIDE**

Alcohol-alkoxide exchange between  $Sn(OBu)_4$  and  $HOBu^+$  in co-ordinating and non-co-ordinating solvents, 2659

**SILVER**

Synthesis and characterization of the centred icosahedral cluster series  $[Au,M^{18}Cl_6(PMePh_3)_6][C_2B_9H_{12}]$ , where  $M^{18}$  = Au, Ag or Cu, 491

Variable-temperature nuclear magnetic resonance spectroscopic studies of the dynamic behaviour of the mixed-metal cluster compounds  $[MM'Ru_2H_2(\mu-dppf)(CO)]_2$  ( $M = M' = Cu, Ag$  or  $Au; M = Cu, M' = Au; dppf = Fe(\eta^2-C_6H_4PPh_2)_2$ ) and the crystal structures of  $[MM'Ru_2H_2(\mu-dppf)(CO)]_2$  ( $M = Cu$  or  $Au, M' = Au$ ), 643

The chemistry and the geometric and electronic structures of small naked metal clusters prepared using a rotating cryostat and studied by electron paramagnetic resonance, 653  
Deposition and growth of noble metal clusters on graphite, 665

Preparation, characterisation and properties of Groups VIII and IB metal nanoparticles, 673

Surface-enhanced resonance-Raman scattering: an informative probe of surfaces, 791

Polymeric pyrazolato complexes. Synthesis, chemical reactivity and crystal structures of  $[(Pd(dmpz)_2(Hdmpz)_2)]$  and  $[(PdAg_2(dmpz)_2)]$  ( $Hdmpz = 3,5\text{-dimethylpyrazole}$ ), 1351

One-, two- and three-dimensional copper(I) and silver(I) complexes of 2,11-dithia[3.3]paracyclophane, 1525

Silver-iodocarbon complexes: crystal structures of eight compounds obtained from the reactions of  $AgPF_6$  or  $AgNO_3$  with  $CH_2I_2$ ,  $I(CH_2)_3$  and simple aryl iodides, 1669

Syntheses, structures and electrochemical properties of single and double helical inorganic complexes containing new poly(pyridine ligands), 1829

Electrochemical synthesis and crystal structure of silver(I) complexes with some heterocyclic thiones, 2047

Substituent-controlled assembly of helical complexes: synthesis, crystal and molecular structures of double helical silver(I) complexes with substituted quinquepyridines, 2309

First examples of polymeric mixed-metal (Pt-Ag) complexes containing single acetamidate bridges: *cis*- $[(NH_3)_2Pt(NHCOMe)_2Ag]NO_3 \cdot 4H_2O$  and *trans*- $[(NH_3)_2Pt(NHCOMe)_2Ag]NO_3 \cdot 1.5H_2O$ , 2329

Spectroscopic and structural studies on 1:2 adducts of silver(I) salts with tricyclohexylphosphine, 2449

Spectroscopic and structural studies on 1:1 adducts of silver(I) salts with tricyclohexylphosphine, 2459

Synthesis, crystal structure and non-linear optical properties of two new cluster compounds,  $[MoCu_2OS_3(PPh_3)_3(S_2P(OBu)_2)_2]$  and  $[MoAg_2S_3(PPh_3)_3(S_2P(OBu)_2)_2]$ , 2617

Reactions of electrophiles with  $[(Bu^+N)_2Re^{IV}(\mu-NBu)]_2$ , 2995

Thiophene-linked azacryptand sites for dicopper and disilver; thiophene sulfur as an inert spacer?, 3021

Synthesis and crystal structures of heterobimetallic 2-(diphenylphosphino)pyridine complexes containing an  $Fe \rightarrow M$  ( $M = Cu^+, Ag^+$  or  $Hg^{II}$ ) donor-acceptor bond and a mononuclear iron(II) complex bearing a pair of planar strained four-membered chelate rings, 3475

Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating  $O_4N_2^-$ ,  $O_2S_2N_2^-$  and  $S_4N_2^-$ -donor sets, 3591

Intramolecular electron transfer in linear trinuclear complexes of copper(I), silver(I) and gold(I) bound to redox-active cyanomanganese ligands, 3977

Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphathia ligands and their chalcogenide derivatives, 4099

Silver complexes with the *nido*-diphosphine  $[7,8-(PPh_2)_2-7,8-C_2B_9H_{10}]^-$ , 4583

**SILYL**

Some transition-metal complexes derived from silylated 1,3-diyynes, 1551

Reactions of gallium(III) chloride with  $Li[E(SiMe_3)_3]$  ( $E = Si$  or  $Ge$ ): crystal structure of  $(R_2Ge)ClGa(\mu-OEt)_2GaCl(GeR_3)$  ( $R = SiMe_3$ ), 4183

Mixed iron-silicon-tin complexes stabilized by a phosphinoenolate

bridging ligand. Crystal structure of  $[(OC)_3(MeO)_3Si-\overline{Fe(\mu-Ph_2PCH=CO)Ph}^{\pm}SnBu^n]_2$ , 4365

**SILYLENE**

Low-temperature reactions of dihalogenosilylenes,  $SiX_2$ , with  $I_2$  or  $ICl$  in toluene yielding dihalogenoiodo(methylphenyl)silanes, 227  
Electronic structure of stable benzodiazasilylenes: photoelectron spectra and quantum-chemical investigations, 1475

**SILYLIUM**

Low-temperature reactions of dihalogenosilylenes,  $SiX_2$ , with  $I_2$  or  $ICl$  in toluene yielding dihalogenoiodo(methylphenyl)silanes, 227

**SODIUM**

Synthesis, structure and characterisation of  $[Ni(bipy)_3][NaAl(ox)_3]$  ( $bipy = 2,2'$ -bipyridine,  $ox =$  oxalate), 3985

**SOL-GEL PROCESSING**

New materials by sol-gel processing: design at the molecular level, 3343

**SOLID STATE**

Study of a solid-state polymerisation reaction: thermal elimination of  $NaCl$  from sodium chloroacetate, 11

Diverse solid-state clusters with strong metal-metal bonding. In praise of synthesis, 575

Multinuclear solid-state nuclear magnetic resonance studies on transition-metal clusters containing hydrides, 625

Deposition and growth of noble metal clusters on graphite, 665  
Molecular dynamics in solid bis( $\eta$ -arene)molybdenum complexes studied by solid-state deuterium nuclear magnetic resonance spectroscopy, 2989

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of  $PPh_3$  with gold(I) halides; crystal structure of  $[AuBr(PMe_3)]$ , 3121

Concerted supramolecular motifs: linear columns and zigzag chains of multiple phenyl embraces involving  $Ph_3P^+$  cations in crystals, 3755

Vibrational and solid-state phosphorus-31 nuclear magnetic resonance spectroscopic studies of 1:1 complexes of  $PPh_3$  with gold(I) halides; crystal structure of  $[AuBr(PMe_3)]$  (1996, 3121), 3897

**SOLVATOCHROMISM**

Syntheses of new copper(II) mixed-ligand complexes and their chromotropic properties in solution and in the solid state, 3251

Mono- and di-nuclear complexes of molybdenum carbonyl derivatives with pyridine-2-carbaldehyde azine and phosphines: syntheses, structure, spectroscopic and electrochemical characterisation and solvatochromic effects, 4369

**SOLVENT EFFECT**

Mechanism of chelation of phenanthroline derivatives to  $Mo(CO)_5$  deduced from pulsed photolysis studies in several solvents at high pressure, 1629

Alcohol-alkoxide exchange between  $Sn(OBu)_4$  and  $HOBu^+$  in co-ordinating and non-co-ordinating solvents, 2659

Influence of solvent polarity from water to toluene on the co-ordination of pyridines by the cobalt(III) corrindol sulfitocobyrinic acid heptamethyl ester, 3721

**SOLVENT EXTRACTION**

Selectivity design using interligand contact: solvent extraction and structures of first-series-transition metal-bis(pyrazol-1-yl)borate complexes, 195

Rare earth-metal solvent extraction with calixarene phosphates, 1687

**SPECTROELECTROCHEMISTRY**

Electrochemical and spectroelectrochemical studies on platinum complexes containing 2,2'-bipyridine, 329

Raman spectroelectrochemical studies and crystal structure of a binuclear copper(I) complex with a bridging diimine ligand, 1591

Dinuclear alkoxide-bridged ruthenium(II) complexes with Class III mixed-valence states: a structural and spectroelectrochemical study, 2527

Fourier-transform infrared study of short-lived highly reduced dithiolenes complexes by potential-modulation spectro-electrochemical techniques, 2945

**SPIRO COMPOUND**

Barbituric acid as a new locking fragment in macrocyclization: synthesis and structural characterization of aqua(perchlorato)-(2',4',6'-trioxaheptylpyrimidine-5'-spiro-6,1,4,8,11-tetraazacyclotetradecane)copper(II) perchlorate hydrate, 2017

**STABILITY CONSTANT**

Oxovanadium(IV) complexes of ligands containing phosphonic acid moieties, 87

A reinforced polyaza[n,n]paracyclophane containing piperazine rings, 239

Complexation properties of macrocyclic polyoxadiazaphosphonates, 1113

1-Hydroxyalkane-1,1-diyldiphosphonates as potent chelating agents for metal ions. Potentiometric and spectroscopic studies of copper(II) co-ordination, 1119

A potentiometric and spectroscopic study of copper(II) diamino-dioxime complexes, 1373

**STABILITY CONSTANT (contd)**

Alkali-metal complexes of a pendant-arm tetraaza macrocycle. Equilibrium, inter- and intra-molecular exchange processes, 1379  
 Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles, 1753  
 Oxovanadium(IV) complexes of ligands containing phosphonic acid moieties (1996, 87), 1779  
 Crystal structure of a copper(II)-famotidine complex and solution studies of the Cu<sup>2+</sup>-famotidine-histidine ternary system, 1905  
 Copper-(I) and -(II) complexes with tertiary linear polyamines of the type Me<sub>2</sub>NCH<sub>2</sub>(CH<sub>2</sub>NMeCH<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>NMe<sub>2</sub> (*n* = 1–4), 2055  
 Spectrophotometric study of the complexation of iodine with macrocycles in chloroform solution, 2215  
 Selectivity of macrocyclic aminocarboxylates for alkaline-earth metal ions and stability of their complexes, 2347  
 Correlation between kinetic and thermodynamic complex-formation constants for the interaction of bis(amine)palladium(II) with inosine, inosine 5'-monophosphate and guanosine 5'-monophosphate, 2673  
 Synthesis and co-ordination of 1,4,7,10-tetraazacyclododecanes disubstituted with imidazole and pyrazole, 2679  
 Complexing properties of phosphinic analogues of glycine, 2685  
 Synthesis and solution complexation behaviour of tetradentate diamines with hard phosphinate donors, 2693  
 Chelating behaviour of methyl 2-pyridyl ketone carbono- and thiocarbono-hydrazones in copper(II) and zinc(II) complexes, 2699  
 Aqueous tungstovanadate equilibria, 2705  
 Highly branched ferrocene-functionalised polyazacycloalkanes as electroactive receptors for transition-metal ions, 2923  
 Hydrolysis of magnesium(II) at elevated temperatures, 3071  
 Eight-membered chelate-ring complexes of cobalt(III)-polyamine complexes of aminopolyporphonates in aqueous solution, 3077  
 Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087  
 Copper(II) complexes with cyclo(L-aspartyl-L-aspartyl) and cyclo(L-glutamyl-L-glutamyl) derivatives and their antioxidant properties, 3093  
 Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles (1995, 1753), 3163  
 Co-ordination of copper(II) ions by prolyl- $\alpha$ , $\beta$ -dehydروamino acids: comparative studies and general considerations, 3265  
 Ultraviolet-circular dichroism spectra for structural analysis of copper(II) complexes with aliphatic and aromatic ligands in aqueous solution, 3269  
 Oxygen and vanadium exchange processes in linear vanadate oligomers, 3357  
 Nickel(II) N<sub>2</sub>O<sub>2</sub> Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437  
 Zinc(II) complexes of phosphonic acid analogues of glutamic acid, 3455  
 Electron spin resonance study of the frozen-solution equilibrium [Co{S<sub>2</sub>C<sub>2</sub>(CF<sub>3</sub>)<sub>2</sub>L}] + L ⇌ [Co{S<sub>2</sub>C<sub>2</sub>(CF<sub>3</sub>)<sub>2</sub>L}]<sup>+</sup> [L = P(OR)<sub>3</sub> or P(OPh)(OMe)<sub>2</sub>; R = alkyl], 3503  
 Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>3</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenabis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit-2L<sub>2</sub> and ebit-2L<sub>2</sub>, 3583  
 Metal-ion recognition. The interaction of copper(II), silver(I) and lead(II) with 22-membered macrocycles incorporating O<sub>4</sub>N<sub>2</sub><sup>-</sup>, O<sub>2</sub>S<sub>2</sub>N<sub>2</sub><sup>-</sup> and S<sub>2</sub>N<sub>2</sub>-donor sets, 3591  
 Influence of solvent viscosity from water to toluene on the co-ordination of pyridines by the cobalt(III) corrinoid sulfitocobyrinic acid heptamethyl ester, 3721  
 An equilibrium study on bivalent metal complexes with 1,5,9,13,17,21-hexaazacyclotetacosane ([24]aneN<sub>6</sub>) in aqueous solution, 3727  
 Molecules bearing a redox-active spacer. Synthesis and co-ordination behaviour of 1,1'-bis(5-methyl-2,5-diazahexyl)ferrocene, 4121  
 Aqueous vanadosilicates, 4189  
 Amide nitrogen co-ordination of Co<sup>II</sup> and Ni<sup>II</sup> in ternary 2,2'-bipyridine-containing systems. A solution and solid-state study, 4201  
 Characterization and superoxide dismutase activity of copper(II) complexes of 6A,6X-disfunctionalized  $\beta$ -cyclodextrins, 4351  
 Formation and structure of inclusion complexes involving  $\alpha$ -cyclodextrin and alkyl(aqua)cobaloxime, 4425  
 Hydrolytic equilibria of lead(II) at 100 °C in 3.6 mol kg<sup>-1</sup> LiClO<sub>4</sub>, 4597  
 A potentiometric and spectroscopic study of copper(II) diaminodiamino complexes, 4605  
**STACKING**  
 $\pi$  Stacking and the co-ordinate bond: sometimes conflicting factors in molecular recognition, as revealed in the structures of metal picrates, 3165

Synthesis and structures of copper(II) anion-bridged aggregates and chains: control over molecular shape, 3173

**STANNOXANE**

Dilithium diamides [{Li(OC<sub>4</sub>H<sub>9</sub>)<sub>2</sub>}C<sub>20</sub>H<sub>12</sub>(NR)<sub>2</sub>] (R = SiMe<sub>3</sub> or CH<sub>2</sub>Bu') derived from *R*-, *S*- or *R,S*-2,2'-diamino-1,1'-binaphthyl derivatives, 3595

**STANNYLENE**

Tin-carbon bond formation by simple addition of cyclic dienes to a bis(amino)stannylene: a mechanistic study, 161

**STEREOISOMERISM**

Synthesis, properties, stereochemistry and crystal structures of diastereomeric benzene-ruthenium(II) complexes with a chiral salicylideneaminato ligand, 1499

**STREPTONIGRIN**

A proton nuclear magnetic resonance study of the interaction of zinc(II) with the antitumour drug streptonigrin, 549

**STRONTIUM**

Structure and properties of SrCu(OH)<sub>4</sub>·H<sub>2</sub>O, 7

**STYRENE**

New atropisomeric bidentate nitrogen-donor compounds as potential stereocontrollers in mild CO-styrene copolymerisation catalysed by palladium(II) salts, 1021

Synthesis, characterization and molecular structure of two Ru<sub>4</sub> clusters with  $\beta$ -alkylstyrene ligands, 4629

**SUBSTITUTION**

Tuning the reactivity of platinum(II) complexes through cyclo-metallation. A comment, 1471

Tuning the reactivity of platinum(II) complexes through cyclo-metallation. A reply, 1472

Equilibria and rates of olefin substitution in zerovalent palladium complexes containing a 2-pyridylmethanamine ligand, 1921

Mechanistic information on ligand-substitution reactions of europium(III) in aqueous solution from high-pressure stopped-flow experiments, 2127

Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on [Cl<sub>2</sub>Fe<sub>2</sub>VS<sub>2</sub>FeCl<sub>2</sub>]<sup>3-</sup>, 3667

Axial ligand substitutions in *trans*-bis[1,2-phenylenebis(dimethylarsine)] complexes of ruthenium(II), 3917

Kinetics and mechanism of ligand substitution in [Cr( $\pi$ -ligand)-(CO)<sub>3</sub>] complexes (ligand = naphthalene, pyrene, thiophene, 2,6-dimethylpyridine or cycloheptatriene) and of *fac*/*mer* isomerization in [M(CO)<sub>3</sub>L]<sub>2</sub> (M = Cr, Mo or W; L = phosphine, phosphine or isocyanide), 3959

**SULFATE**

Polyorphism, structures and phase transformation of K<sub>3</sub>[SO<sub>4</sub>]F, 2497

Macrocyclic dimeric vanadium(IV) and heterodinuclear vanadium(IV)-nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

**SULFENAMIDE**

$\eta^2$ -Sulfenamido and -selenamido complexes of titanium, zirconium, molybdenum and tungsten, 1309

Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes *via* sulfenamido rearrangement, 4063

**SULFIDE**

Molybdenum(VI) imidosulfur complexes formed *via* double sulfur-carbon bond cleavage of dithiocarbamates, 183

Spectroscopic, magnetic and structural studies on the mixed-valence cuboidal clusters [Mo<sub>4</sub>E<sub>2</sub>(edta)<sub>2</sub>]<sup>3-</sup> (E = S or Se; H<sub>2</sub>edta = ethylenediaminetetraacetic acid) and [Mo<sub>4</sub>S<sub>4</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>5+</sup>, 363

The first crystal structures of mixed chalcogen derivatives SnR<sub>2</sub>[{(OPPh)<sub>2</sub>(SPPh<sub>3</sub>)N]<sub>2</sub> (R = Me or Ph), 391

Characterisation of a cationic trimolybium aqua ion cluster and related studies, 703

Gas-phase metal sulfide cluster anions, 709

Synthesis of the new binucleating compound pyrazin-2-yl 2-pyridyl sulfide for stepwise or direct approach to asymmetric binuclear ruthenium(II) complexes, 885

Synthesis and spectroscopic characterization of new mixed-metal, mixed-chalcogenide clusters [Fe<sub>2</sub>W(CO)<sub>10</sub>( $\mu$ <sub>3</sub>-Se)( $\mu$ <sub>3</sub>-E)] (E = Te or S). Structures of [Fe<sub>2</sub>M(CO)<sub>10</sub>( $\mu$ <sub>3</sub>-Se)( $\mu$ <sub>3</sub>-E)] (M = W, E = Se or Te; M = Mo, E = Se), 2173

Local structures of the amorphous chromium sulfide, Cr<sub>2</sub>S<sub>3</sub>, and selenide, CrSe<sub>3</sub>, from X-ray absorption studies, 2245

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of [Mo<sub>2</sub>Ru<sub>2</sub>( $\mu$ <sub>3</sub>-S)<sub>2</sub>( $\mu$ -SPr)<sub>2</sub>(CO)<sub>4</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>], 2403

Synthesis, crystal structure and non-linear optical properties of two new cluster compounds, [MoCu<sub>3</sub>OS<sub>3</sub>(PPh<sub>3</sub>)<sub>3</sub>(S<sub>2</sub>P(OBu)<sub>2</sub>)<sub>3</sub>] and [MoAg<sub>3</sub>S<sub>4</sub>(PPh<sub>3</sub>)<sub>3</sub>(S<sub>2</sub>P(OBu)<sub>2</sub>)<sub>3</sub>], 2617

Preparation and properties of the corner-shared double cube [Mo<sub>6</sub>PbS<sub>6</sub>(H<sub>2</sub>O)<sub>18</sub>]<sup>4+</sup> as a derivative of [Mo<sub>6</sub>S<sub>6</sub>(H<sub>2</sub>O)<sub>18</sub>]<sup>4+</sup>, 2623

New synthetic route to WS<sub>4</sub> and its solution-phase structure as determined by tungsten L(III)-edge extended X-ray absorption fine structure studies, 2975

**SULFIDE** (contd)

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[\text{Mo}_2\text{Ru}_2(\mu_3\text{-S})_2(\mu\text{-SPr})_2(\text{CO})_4(\eta\text{-C}_5\text{H}_5)_2]$  (1996, 2403), 3341  
 Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on  $[\text{Cl}_2\text{FeS}_2\text{VS}_2\text{FeCl}_2]^{3-}$ , 3667  
 Structural characterization of possible intermediates in vanadium-catalysed sulfide oxidation, 3865  
 Formation of  $[\text{CoPt}_2\text{Cl}_2(\text{PPh}_3)_4(\mu_3\text{-S})_2]$  from facile heterometalation of  $[\text{Pt}_2(\text{PPh}_3)_4(\mu\text{-S})_2]$  and its facile deheterometalation via carbonylative desulphurization to give Pt-Pt bonded  $[\text{Pt}_2(\text{CO})_2(\text{PPh}_3)_2(\mu\text{-S})_2]$ , 4023

Preparation of heterometallic single cubes  $[\text{W}_3\text{MS}_4(\text{H}_2\text{O})_{12}]^{n+}$  ( $\text{M} = \text{In}, \text{Ge} \text{ or } \text{Sn}$ ) and the first corner-shared double cubes  $[\text{W}_6\text{SnS}_4(\text{H}_2\text{O})_{18}]^{n+}$  and  $[\text{W}_3\text{Mo}_3\text{SnS}_8(\text{H}_2\text{O})_{18}]^{n+}$  as derivatives of  $[\text{W}_3\text{S}_4(\text{H}_2\text{O})_{18}]^{4+}$ , 4089

Versatile ligand behaviour of phenyl 2-pyridyl ketone benzoylhydrazone in palladium(II) complexes, 4239

Oxidative addition of diferrocenyl dichalcogenides to  $[(\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)(\mu_3\text{-Cl}))_2]$ . Syntheses, crystal structures and some reactivities of  $[(\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)\text{Cl}(\mu\text{-ER}))_2]$  ( $\text{E} = \text{S}, \text{Se} \text{ or } \text{Te}; \text{R} = \text{ferrocenyl}$ ), 4307

Asymmetric syntheses, structures and co-ordination chemistry of palladium(II) complexes containing a chiral P,S hybrid bidentate ligand, 4443

(*R*)- and (*S*)-2-Diphenylphosphinoyl-2'-hydroxy-1,1'-binaphthalene: versatile chiral bidentate ligands, 4449

**SULFONAMIDE**

Crystal structures and superoxide dismutase mimetic activity of  $[\text{CuL}_2(\text{Him})_2]\text{-MeOH}$  and  $[\text{CuL}_2(\text{mim})_2]\text{-H}_2\text{O}$  [ $\text{HL} = 4\text{-amino-N-(thiazol-2-yl)benzenesulfonamide, Him = imidazole, mim = N-methylimidazole}$ ], 2239

**SULFONATE**

Alkaline-earth-metal arenesulfonates as precursors to organic derivatives of Group 2 metals, 4151

**SULFONYL**

Amide nitrogen co-ordination of Co<sup>II</sup> and Ni<sup>II</sup> in ternary 2,2'-bipyridine-containing systems. A solution and solid-state study, 4201

**SULFUR**

Reaction of  $(\text{Me}_3\text{SiNSN})_2\text{S}$  with palladium complexes: crystal structures of  $[\text{PPh}_3]_2[\text{Pd}_2\text{Br}_2(\text{S}_2\text{N}_3)_2]$  and  $[\text{PPh}_3][\text{PdBr}_2(\text{S}_2\text{N}_3)_2]$ , 53  
 Molybdenum(VI) imidodisulfur complexes formed via double sulfur-carbon bond cleavage of dithiocarbamates, 183  
 An improved synthesis of SF<sub>5</sub>(CN) and its cycloaddition reaction with SNSAsF<sub>6</sub>. Crystal structure of F<sub>5</sub>SCNSNSAsF<sub>6</sub> and electron spin resonance spectrum of F<sub>5</sub>SCNSNS<sup>+</sup>, 383

Preparation and characterization of 1,3,2-dithiazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with SNS<sup>+</sup>, 1997

Influence of mixed sulfur-nitrogen oxides on the redox kinetics of iron ions in aqueous solution, 2135

Preparation, structural and spectroscopic characterisation of the salts M<sub>2</sub>X<sub>3</sub>AF<sub>6</sub> ( $\text{A} = \text{As} \text{ or } \text{Sb}, \text{M} = \text{S} \text{ or } \text{Se}, \text{X} = \text{Cl} \text{ or } \text{Br}$ ) containing the novel sulfur- and selenium-halogen cations (X<sub>2</sub>MMMX)<sup>+</sup>, 2553

Kinetics and mechanism of reduction of (*trans*-cyclohexane-1,2-diyl)dinitrilotetraacetato)manganese(III) by HONH(SO<sub>3</sub>)<sup>-</sup> and HON(SO<sub>3</sub>)<sub>2</sub><sup>2-</sup>, 4393

**SUPEROXIDE**

Copper(II) complexes with cyclo(l-aspartyl-l-aspartyl) and cyclo(l-glutamyl-l-glutamyl) derivatives and their antioxidant properties, 3093

**SUPPORTED MATERIAL**

New silica-gel-bound polyazacycloalkanes and characterization of their copper(II) complexes using electron spin resonance spectroscopy, 1209

Synthesis and reactions of polymer-supported dicarbonyl(dienyl)-(triphenylphosphine)iron(0) complexes, 3747

**SUPRAMOLECULAR**

New preparative access to and the crystal and molecular structures of *cis*-[PtCl<sub>2</sub>(CO)<sub>2</sub>]<sub>n</sub>, 4317

**SUPRAMOLECULAR CHEMISTRY**

New supramolecular architectures based on polyfunctional organotin tetrazoles: synthesis and characterisation of phenylene-bridged bis(organotin tetrazoles), 835  
 Organotin-functionalised poly(tetrazoles), including the supramolecular structure of 1,6-(2-Bu<sub>3</sub>SnN<sub>4</sub>C<sub>2</sub>(CH<sub>2</sub>)<sub>6</sub>), 847

Covalently linked anthracene-containing supramolecular complexes of triosmium carbonyl clusters: synthesis, crystal structures and solvatochromic behaviour, 1853

Tris(triorganostannyltetrazoles): synthesis and supramolecular structures, 1857

Self-assembly of copper(I) complexes into three-dimensional co-ordination polymers with channel networks by hydrogen bonding or by tridentate ligands, 2031

Transition-metal complexes of 4'-(4-anilino)-2,2':6',2"-terpyridine (and derivatives): versatile building blocks for construction of metallooligomers and macromolecules, 2185

Substituent-controlled assembly of helical complexes: synthesis, crystal and molecular structures of double helical silver(I) complexes with substituted quinquepyridines, 2309

2,2':6',2":6",2"-Quaterpyridine (qtpy): a versatile ligand in metallocsupramolecular chemistry; crystal and molecular structures of  $[\text{Ni}(\text{qtpy})(\text{OH}_2)_2][\text{BF}_4]_2$ ,  $[\text{Pd}(\text{qtpy})][\text{PF}_6]_2$ ,  $[\text{Cu}_2(\text{qtpy})_2][\text{PF}_6]_2$  and  $[\text{Ag}(\text{qtpy})][\text{BF}_4]_2$ , 2423

Synthesis, redox behaviour and molecular structures of new metal cluster species containing orthometallated  $[\text{M}_3(\mu\text{-H})(\text{CO})_{10}(\mu\text{-NC}_5\text{H}_5)]$  ( $\text{M} = \text{Ru} \text{ or } \text{Os}$ ) and ferrocene chromophores bridged by an aromatic unit, 3209

Concerted supramolecular motifs: linear columns and zigzag chains of multiple phenyl embrace involving Ph<sub>2</sub>P<sup>+</sup> cations in crystals, 3755  
 A convenient high yield synthesis of 2,2':6',2":6",2"-sexipyridine and helical transition-metal complexes of substituted sexipyridines, 4207

**SURFACE**

Surface-enhanced resonance-Raman scattering: an informative probe of surfaces, 791

Arene cluster compounds, 2395

**SYNTHESIS**

An expedient, mild, reductive method for the preparation of alkylferrocenes, 4617

**TANTALUM**

Preparation and characterization of dialkylcarbamato derivatives of niobium and tantalum, 311

Syntheses and crystal structures of phenyl(2-pyridyl)amido complexes of zirconium(IV), niobium(V) and tantalum(V), 4345

**TECHNETIUM**

Co-ordination chemistry of S-methyl 2-methyldithiocarbazate and formation of  $[\text{M}\equiv\text{N}]^{2+}$  ( $\text{M} = \text{Tc} \text{ or } \text{Re}$ ) species, 3105

**TECHNETIUM-99**

Co-ordination chemistry of S-methyl 2-methyldithiocarbazate and formation of  $[\text{M}\equiv\text{N}]^{2+}$  ( $\text{M} = \text{Tc} \text{ or } \text{Re}$ ) species, 3105

**TELLURETANE**

Trifluorotelluroacetyl fluoride, its cyclic dimer and precursors: preparation, characterisation and reactivity, 4463

**TELLURIDE**

Synthesis and structural characterisation of new copper-tellurium clusters: TeBu<sub>2</sub>(SiMe<sub>3</sub>) as a source of RTe<sup>-</sup> and Te<sup>2-</sup> ligands, 729

Synthesis and spectroscopic characterization of new mixed-metal, mixed-chalcogenide clusters  $[\text{Fe}_2\text{W}(\text{CO})_{10}(\mu_3\text{-Se})(\mu_3\text{-E})]$  ( $\text{E} = \text{Te}$  or  $\text{S}$ ). Structures of  $[\text{Fe}_2\text{M}(\text{CO})_{10}(\mu_3\text{-Se})(\mu_3\text{-E})]$  ( $\text{M} = \text{W}, \text{E} = \text{Se}$  or  $\text{Te}; \text{M} = \text{Mo}, \text{E} = \text{Se}$ ), 2173

Pentanuclear cluster of palladium(II) bridged by telluride ions: synthesis and crystal structure of  $[\text{Pd}_5(\mu_3\text{-Te})_4(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_4]^{2+}$ , 3335

Synthesis of cobalt-tellurium 'stellated' octahedral clusters  $[\text{Co}_6(\mu_3\text{-Te})_6(\text{PET}_3)_6]^{n-}$  ( $n = 1 \text{ or } 2$ ). Molecular structure of  $[\text{Co}_6(\mu_3\text{-Te})_6(\text{PET}_3)_6][\text{PF}_6]_2$ , 3991

Versatile ligand behaviour of phenyl 2-pyridyl ketone benzoylhydrazone in palladium(II) complexes, 4239

Oxidative addition of diferrocenyl dichalcogenides to  $[(\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)(\mu_3\text{-Cl}))_2]$ . Syntheses, crystal structures and some reactivities of  $[(\text{Ru}(\eta^5\text{-C}_5\text{Me}_5)\text{Cl}(\mu\text{-ER}))_2]$  ( $\text{E} = \text{S}, \text{Se} \text{ or } \text{Te}; \text{R} = \text{ferrocenyl}$ ), 4307

Trifluorotelluroacetyl fluoride, its cyclic dimer and precursors: preparation, characterisation and reactivity, 4463

**TELLURIN**

Trifluorotelluroacetyl fluoride, its cyclic dimer and precursors: preparation, characterisation and reactivity, 4463

**TELLURITE**

Tellurium compounds of the main-group elements: progress and prospects, 1185

**TELLURIUM**

Cyclopentadienyl metal teflate (OTeF<sub>5</sub>) complexes, 509

Tellurium compounds of the main-group elements: progress and prospects, 1185

Synthesis, structure and reactions of the first tellurium-containing macrocyclic Schiff base, 1203

Reactions of heterocyclic organotellurium compounds with triiron dodecacarbonyl: reactions of thiophenes revisited, 1545

Structure and reactivity of  $[\{\text{Te}(\text{NMe}_2)_2\}_{10}]$ : application to the preparation of metalloorganic tellurium(II) compounds, 1727

Reactions of (diethyldithiocarbamato)halogenotellurium(II); crystal structures of  $\text{R}[\text{Te}(\text{S}_2\text{CNEt}_2)_2\text{X}_2]$  ( $\text{R} = \text{NEt}_4, \text{X} = \text{I}; \text{R} = \text{H}(\text{phen}), (\text{phen} = 1,10\text{-phenanthroline}), \text{X} = \text{I} \text{ or } \text{Br}$ ), 2253

Trifluorotelluroacetyl fluoride, its cyclic dimer and precursors: preparation, characterisation and reactivity, 4463

**TELLUROCARBONYL**

Trifluorotelluroacetyl fluoride, its cyclic dimer and precursors: preparation, characterisation and reactivity, 4463

**TELLUROLATE**

Synthesis and structural characterisation of new copper-tellurium clusters: TeBu<sub>2</sub>(SiMe<sub>3</sub>) as a source of RTe<sup>-</sup> and Te<sup>2-</sup> ligands, 729

**TELLUROPHENE**

Reactions of heterocyclic organotellurium compounds with triiron dodecacarbonyl: reactions of thiophenes revisited, 1545

**TEMPLATE**

Synthesis of lanthanide(III) complexes of a 20-membered hexaaza macrocycle, 1867

Thermolytic reaction of 1,4-diisopropenylbenzene with  $[Ru_3(CO)]_{12}$ : an arene ligand as a template for cluster formation, 4621

**TEMPLATE CYCLISATION**

Primary alkenyl phosphine complexes of chromium and molybdenum; synthesis and characterisation of tricarbonyl(1,5,9-triphosphacyclododecane)chromium(0), 1801

**TEMPLATE SYNTHESIS**

Unexpected ring contraction in the barium-assisted cyclocondensation of 2,6-diformylpyridine and *N,N*-bis(2-aminoethyl)-2-phenylethylamine, 1181

Complexes of lanthanide(III) ions with macrocyclic ligands containing pyridine head units, 1493

Diruthenium hexaalkoxides: templates for organometallic chemistry and catalysis, 1781

Synthesis and structure of dilead(II) and dimanganese(II) complexes of macrocycles derived from 3,6-diformylpyridazine, 2117

Template synthesis of helicates of a [2 + 2] tetraimine macrocycle: crystal structure of the lead(II) perchlorate complex, 3421

**TERPYRIDINE**

Is the fluxional motion of bidentate 2,2':6,2"-terpyridine in *cis*-[M(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>(terpy)] (M = Pd<sup>II</sup> or Pt<sup>II</sup>) a dissociative process? A comment, 253

New tricks for an old ligand: cyclometallated and didentate coordination of 2,2':6,2"-terpyridine to ruthenium(II), 873

Synthesis, characterization and redox properties of mixed phosphine nitroruthenium(II) complexes. Crystal structure of *trans*-[Ru(NO<sub>2</sub>)(terpy)(PMc<sub>3</sub>)(PPh<sub>3</sub>)][ClO<sub>4</sub>]<sub>2</sub>·H<sub>2</sub>O, 1463

Syntheses, structures and electrochemical properties of single and double helical inorganic complexes containing new polypyridine ligands, 1829

Transition-metal complexes of 4'-(4-anilino)-2,2':6,2"-terpyridine (and derivatives): versatile building blocks for construction of metallooligomers and macromolecules, 2185

Hydrogen-bond recognition of nucleosides by oligopyridine ligands and their ruthenium complexes, 2389

Ruthenium(II) complexes of some new polynucleating ligands incorporating terpyridyl and macrocyclic aza-crown binding sites, 4249

**TERPYRIDINIUM**

New tricks for an old ligand: cyclometallated and didentate coordination of 2,2':6,2"-terpyridine to ruthenium(II), 873

**TETRAAZASULFATETRAENE**

Reaction of (Me<sub>2</sub>SiNSN)<sub>2</sub>S with palladium complexes; crystal structures of [PPPh<sub>4</sub>]<sub>2</sub>[Pd<sub>2</sub>Br<sub>4</sub>(S<sub>2</sub>N<sub>2</sub>)<sub>2</sub>] and [PPPh<sub>4</sub>][PdBr<sub>2</sub>(S<sub>2</sub>N<sub>2</sub>)<sub>2</sub>], 53

**TETRACYANOQUINODIMETHANE**

Magnetic and optical characterization of one-dimensional isostructural σ-bonded tetracyanoquinodimethanido complexes of nickel(II) and copper(II), 3015

**TETRAHYDROBORATE**

Methylzinc tetrahydroborate: physical and chemical properties and crystal structure at low temperature, 853

**TETRAHYDROTHIOPHENE**

Molybdenum(IV) chloride-tetrahydrothiophene (tth) complexes in the catalytic polymerization and cyclotrimerization of alkynes: structures and reactivities of the possible intermediates [MoCl<sub>3</sub>(tth)<sub>2</sub>(PhC≡CR)] (R = Me or Et), 4533

**TETRAMIC ACID**

Rhodium(I) complexes containing the enolate of *N*-acetyl-3-butyltetralic acid (Habta) and the crystal structure of [Rh(abta)(P(OPh)<sub>3</sub>)<sub>2</sub>], 1701

**TETRAITHIAFULVALENE**

Metal complexes of a tetraithiafulvalene 4,5-dithiolate. Synthesis, characterisation and properties of dianionic and neutral mercury complexes, 823

**TETRAZENYL**

Reactions of imido complexes of iridium, rhodium and ruthenium, 3771

**TETRAZOLE**

New supramolecular architectures based on polyfunctional organotin tetrazoles: synthesis and characterisation of phenylene-bridged bis(organotin tetrazoles), 835

Organotin-functionalised poly(tetrazoles), including the supramolecular structure of 1,6-(2-Bu<sub>3</sub>SnN<sub>4</sub>C<sub>2</sub>(CH<sub>2</sub>)<sub>6</sub>), 847

Tris(triorganostannyltetrazoles): synthesis and supramolecular structures, 1857

**THALLIUM**

Molecular structure of  $[Tl(tpp)(O_2CCF_3)_2]$  and <sup>19</sup>F dynamic nuclear magnetic resonance of it and  $[Tl(tmpp)(O_2CCF_3)_2]$  [tpp = 5,10,15,20-tetraphenylporphyrinate, tmpp = 5,10,15,20-tetra-(4-methoxyphenyl)porphyrinate], 3787

**THEORETICAL**

Reactions, crystal structure and molecular orbital investigation of the first platinum complex of piroxicam, 111

Synthesis and characterisation of *pseudocloso* iridium and rhenium diphenyl carbaboranes. Molecular structures of 1,2-Ph<sub>2</sub>-3-(η-C<sub>6</sub>H<sub>5</sub>)-3,1,2-*pseudocloso*-Ru<sub>2</sub>B<sub>9</sub>H<sub>9</sub> and 1,2-Ph<sub>2</sub>-3-(cym)-3,1,2-*pseudocloso*-Ru<sub>2</sub>B<sub>9</sub>H<sub>9</sub> (cym = *p*-cymene) and individual gauge for localised orbital calculations on carbametallaboranes, 231

Solid state and solution structures of two structurally related dicopper complexes with markedly different redox properties, 533

What can calculations employing empirical potentials teach us about bare transition-metal clusters?, 611

Electronic structure of stable benzodiazasilylenes: photoelectron spectra and quantum-chemical investigations, 1475

Covalency in metal complexes of 1,4-diazabutadiene (dab). A density functional investigation of the electronic structures of [M(dab)<sub>2</sub>] (M = Li, Ga or Co) and [Th(NH<sub>3</sub>)(NH<sub>2</sub>)<sub>2</sub>(dab)], 1583

Raman spectroelectrochemical studies and crystal structure of a binuclear copper(I) complex with a bridging diimine ligand, 1591

Structural, spectroscopic and angular-overlap studies of tripodal pyridine ligands with nickel(II) and zinc(II), 1845

Preparation and characterization of 1,3,2-dithiazolidine and 1,4-dithia-7-azabicyclo[2.2.1]heptane cations, and a mechanistic study of the cycloaddition reactions of alkenes with SNS<sup>+</sup>, 1997

Prediction of crystal structures, 2077

Bis(carboxylato) complexes of platinum(II). Structural and bonding analysis of [Pt(O<sub>2</sub>CR)<sub>2</sub>(L-L')] [L-L' = 2PPh<sub>3</sub>, Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub> or Fe(C<sub>6</sub>H<sub>5</sub>PPh<sub>2</sub>)<sub>2</sub>; R = Me, CF<sub>3</sub>, Pr or Ph], 2207

Preparation, structural and spectroscopic characterisation of the salts M<sub>3</sub>X<sub>3</sub>AF<sub>6</sub> (A = As or Sb, M = S or Se, X = Cl or Br) containing the novel sulfur- and selenium-halogen cations (X<sub>3</sub>MMMX)<sup>+</sup>, 2553

On the electronic structures and spectra of NiCl<sub>2</sub> and CuCl<sub>2</sub>, 2601

Preparation, characterization and *ab initio* computation of the first binary antimony azide, Sb(N<sub>3</sub>)<sub>3</sub>, 2985

Nitration of hydrogen cyanide with nitryl tetrafluoroborate, 3237

*meso*-Substituted octabromoporphyrins: synthesis, spectroscopy, electrochemistry and electronic structure, 3429

Nickel(II) N<sub>2</sub>O<sub>2</sub> Schiff-base complexes incorporating pyrazole: syntheses, characterization and acidity of the metal centre towards co-ordinating solvents, 3437

Structure of copper(II) complexes with L-leucyl-D- or L-leucyl-L-phenylalanine and molecular orbital calculations on their stabilization, 3449

Synthesis of the 17-electron cations [FeL(L')(NO)<sub>2</sub>]<sup>+</sup> (L, L' = PPh<sub>3</sub>, OPPh<sub>3</sub>): structure and bonding in four-co-ordinate metal dinitrosyls, and implications for the identity of paramagnetic iron dinitrosyl complex catalysts, 3491

Ruthenium tris(pyrazolyl)borate complexes. Formation and characterization of acetone, dimethylformamide and vinylidene complexes containing N,N-donor co-ligands, 4071

Synthesis, properties and characterization of the trinuclear clusters [Co<sub>3</sub>(μ-SR)<sub>6</sub>(PET<sub>3</sub>)<sub>3</sub>]X (R = Me or Et, X = BPh<sub>4</sub><sup>-</sup> or PF<sub>6</sub><sup>-</sup>), 4437

Chemical origin of high activity in oxygenation of cyclohexane by H<sub>2</sub>O<sub>2</sub> catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

Density-functional study of the ground- and excited-spin states of [M<sub>2</sub>Cl<sub>3</sub>]<sup>3-</sup> (M = Mo or W) face-shared dimers: consequences for structural variation in A<sub>3</sub>M<sub>2</sub>Cl<sub>3</sub> complexes, 4485

Tetraaza macrocycles containing pyridine and their copper(II) and nickel(II) complexes: X-ray, spectroscopic, molecular mechanics and molecular orbital studies, 4543

The electronic structure of 'linear' nickel oxides, 4555

Tetraborane(10), B<sub>10</sub>H<sub>16</sub>: structures in gaseous and crystalline phases, 4589

**THERMAL ELIMINATION**

Study of a solid-state polymerisation reaction: thermal elimination of NaCl from sodium chloroacetate, 11

**THERMODYNAMICS**

Kinetic and thermodynamic studies of intramolecular rearrangement and cleavage of the heterobinuclear aqua ion, [(H<sub>2</sub>O)<sub>2</sub>Rh(μ-OH)<sub>2</sub>Cr(OH<sub>2</sub>)<sub>4</sub>]<sup>4+</sup>, 1051

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles, 1753

Spectrophotometric study of the complexation of iodine with macrocycles in chloroform solution, 2215

Correlation between kinetic and thermodynamic complexation constants for the interaction of bis(amine)palladium(II) with inosine, inosine 5'-monophosphate and guanosine 5'-monophosphate, 2673

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles (1995, 1753), 3163

Structural and bonding trends in osmium carbonyl cluster chemistry: metal–metal and metal–ligand bond lengths and

**THERMODYNAMICS (contd)**

calculated strengths, relative stabilities and enthalpies of formation of some binary osmium carbonyls,  $[Os_3(CO)_6]$ , 4639

**THIABORANE**

Ten-vertex polyhedral monoheteroborane chemistry: syntheses, molecular structures and nuclear magnetic resonance characterization of some 9-substituted 6-aza- and 6-thia-*arachno*-decarboranes, 1741

Macropolyhedral boron-containing cluster chemistry. *syn*- and *anti*- $[(C_5Me_5)_2Rh_2S_2B_{15}H_{14}(OH)]$ ; an interesting nineteen-vertex isomeric pair, 1775

Conformational polymorphism and fluxional behaviour of  $M(PR_3)_2$  units in *cis*-twelve-atom metallaheteroboranes with  $MX_2B_9$  ( $X = C$  or  $As$ ) and  $MZB_{10}$  cages ( $Z = S$ ,  $Se$  or  $Te$ ), 3323

Macropolyhedral boron-containing cluster chemistry: nineteen-vertex  $[(PPh_3)_3NiS_2B_{16}H_{12}(PPh_3)]$  and eighteen-vertex  $S_2B_{16}H_{14}(PPh_3)$ , 4155

**THIAPORPHYRIN**

Electronic structure of thiaporphyrins: an X-ray photoelectron spectroscopic study, 1255

**THIAZOLYL**

Triosmium and triruthenium clusters containing the 4-methyl-thiazolide ligand: crystal structures of  $[Os_3(\mu-H)(CO)_{10}(\mu-2,3-\eta^2-C=NCMe-CHS)]$ ,  $[Os_3(\mu-H)(CO)_8(\mu-2,3-\eta^2-C=NCMe-CHS)(PPh_3)]$  and  $[Os_3(\mu-H)(CO)_8(\mu-2,3-\eta^2-C=NCMe-CHS)(PPh_3)_2]$ , 1731

Structural studies on an iron(III) complex containing  $(Z)$ -2-(2-aminothiazol-4-yl)- $N$ -(2-hydroxyethyl)-2-(hydroxymino)-acetamide, a model compound for a cephalosporin antibiotic Cefdinir, 1967

Crystal structures and superoxide dismutase mimetic activity of  $[CuL_2(Him)_2]MeOH$  and  $[CuL_2(mim)_2]H_2O$  [ $HL = 4$ -amino- $N$ -(thiazol-2-yl)benzenesulfonamide,  $Him = imidazole$ ,  $mim = N$ -methylimidazole], 2239

**THIENYL**

Some new dipyridyl and diphenol bridging ligands containing oligothienyl spacers, and their dinuclear molybdenum complexes: electrochemical, spectroscopic and luminescence properties, 4257

Preparation and characterization of carbene complexes of iron from azaryl and thiaryl precursors, 4431

**THIOCARBENE**

A new route to diiron bis( $\mu$ -thiocarbene) complexes: molecular structure of  $[(Fe[\mu-C(CN)SMe](cp))_2]$  ( $cp = \eta$ - $C_5H_5$ ) containing the unusually folded six-membered metallocycle  $Fe_2C_2S_2$ , 3693

**THIOCARBOHYDRAZONE**

Chelating behaviour of methyl 2-pyridyl ketone carbono- and thiocarbono-hydrazones in copper(II) and zinc(II) complexes, 2699

**THIOCARBONYL**

A new route to diiron bis( $\mu$ -thiocarbene) complexes: molecular structure of  $[(Fe[\mu-C(CN)SMe](cp))_2]$  ( $cp = \eta$ - $C_5H_5$ ) containing the unusually folded six-membered metallocycle  $Fe_2C_2S_2$ , 3693

**THIOCARBYNE**

A new route to diiron bis( $\mu$ -thiocarbene) complexes: molecular structure of  $[(Fe[\mu-C(CN)SMe](cp))_2]$  ( $cp = \eta$ - $C_5H_5$ ) containing the unusually folded six-membered metallocycle  $Fe_2C_2S_2$ , 3693

**THIOCYANATE**

Characterisation of a cationic trinioibium aqua ion cluster and related studies, 703

Kinetics and equilibria in the nitric acid–nitrous acid–sodium thiocyanate system, 1915

Synthesis and structure of diled(II) and dimanganese(II) complexes of macrocycles derived from 3,6-diformylpyridazine, 2117

Copper(II) and cobalt(II) complexes of methyl 2-pyridyl ketone thiosemicarbazone (HL); single-crystal structure of  $[Cu(HL)L]NCS$ , 3011

N-Methylation of diamino-substituted macrocyclic complexes: intramolecular cyclisation, 4325

**THIODIKETONATE**

Neutral five-co-ordinate gallium(III) and indium(III) complexes derived from sulfur ligands, 2815

**THIOETHER**

Synthesis, structure and reactivity of the thioether half-sandwich rhodium(II) complex  $[RhCl(MeCN)_2([9]janeS_3)][CF_3SO_3]$  ( $[9]janeS_3 = 1,4,7$ -trithiacyclononane), 1237

Synthesis, structures and redox properties of platinum metal phosphathia complexes: crystal structures of  $cis$ - $[RuCl_2(RSC_2H_4SR)]0.75Et_3O$  and  $cis$ - $[RhCl_2(RSC_2H_4RS)]PF_6 \cdot CH_2Cl_2$  ( $R = Ph_2PCH_2CH_2$ ), 1261

Synthesis and characterisation of mono- and di-nuclear mixed phosphathia complexes of gold(0): crystal structures of  $[Au(RSC_2H_4SR)]PF_6$ ,  $[Au(RSC_2H_4SR)]PF_6$  and  $[Au_2(RSC_2H_4SR)_2]Cl_2 \cdot 4CH_2Cl_2$ , 1267

Novel, selective and co-operative assembly of cyclodextrins around  $[1,8\text{-bis(pyridin-2-yl)}\cdot 3,6\text{-dithiaoctane}]$ copper(II), 2609

Synthesis, platinum-195 nuclear magnetic resonance spectroscopic and extended X-ray absorption fine structure studies on platinum(II) and -IV thioether macrocyclic complexes, 2979

Asymmetric copper complexes of stable mono-*tert*-butyl monobenzyl dithioether  $N_2S_2$  ligands, 3001

1,4,7-Trithiacyclononane ( $[9]janeS_3$ ) and 2,5,8-trithia[9]orthocyclophane complexes of molybdenum(II) and tungsten(II): crystal structures of  $[W(I(CO)_3([9]janeS_3))][BPh_4]$  and  $[W(I(CO)_3(NCMe)(PPh_3))]PF_6$ , 4003

Structural and spectroscopic studies on copper, silver and gold complexes of mixed phosphathia ligands and their chalcogenide derivatives, 4099

Synthesis, solution and magic angle spinning tin-119 nuclear magnetic resonance studies and crystal structures of dithioether complexes of tin(IV) halides, 4471

**THIOFORMAMIDATE**

Synthesis and crystal structure of  $[Ni\{Ph_2PC(S)NPh\}_2]$  and  $[Ni\{Ph_2PY(C(S)NPh)\}_2]$  ( $Y = S$  or  $Se$ ), 2269

**THIOGLYCEROL**

Mixed co-ordination numbers and geometries of gold(I) in a dinuclear complex of thioglycerol, 4511

**THIOLATE**

A halide-free route to Groups 12 and 13 organometallic and metalloorganic complexes, 133

Phosphine-participated formation and crystal structures of nickel complexes with 2-sulfanylphenol and phosphine ligands, 177

Metal complexes of a tetrathiafulvalene 4,5-dithiolate. Synthesis, characterisation and properties of dianionic and neutral mercury complexes, 823

Alane- and gallane-sulfur donor chemistry: synthesis of  $AlH_3(NMe(CH_2CH_2)_2S, [AlH_3(\mu-N(CH_2CH_2)_2S)]_2$  and  $MH(SCH_2CH_2NEt_2)_2$  ( $M = Al$  or  $Ga$ ), 829

Synthesis and characterization of rhodium complexes containing atropisomeric sulfur ligands. Structure of  $[Rh_2(\mu-L)(CO)_4[P(OBu_4)_3]]$  ( $L = 1,1'$ -binaphthalene-2,2'-dithiol), 969

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni, 1093

Synthesis, structure and reactivity of the thioether half-sandwich rhodium(III) complex  $[RhCl(MeCN)_2([9]janeS_3)][CF_3SO_3]$  ( $[9]janeS_3 = 1,4,7$ -trithiacyclononane), 1237

Structure and reactivity of  $[(Te(NMe_2)_2)_n]$ : application to the preparation of metalloorganic tellurium(II) compounds, 1727

Photophysical properties, electronic and crystal structure of a luminescent pentanuclear gold(I) complex, 1769

Nickel complexes of 1,2-bis(diisopropylphosphino)ethane with sulfur-containing ligands, 1935

Dinuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227

Synthesis, structure and characterization of mixed cyclopentadienyl-dithiole metal complexes,  $[Co(\eta-C_5H_5)_2[Ni(C_5S_2)_2 \cdot 2MeCN]$  and  $[Ni(\eta-C_5H_5)(C_5S_2)]$ , 2261

Crystallographic, vibrational and nuclear magnetic resonance spectroscopic characterization of the  $[(PhS_2Hg(\mu-SPh)_2Hg(SPh)_2]^+$  ion, 2381

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[Mo_2Ru_2(\mu_3-S)(\mu-SPr)_2(CO)_4(\eta-C_5H_5)_2]$ , 2403

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni (1996, 1093), 2585

Reactions of substituted thiadiazoles with vanadium(IV) compounds: crystal structures of  $[NH_2Me_2]_2[VCl_3](\mu-NNMe_2)_2$ ,  $[V(OC_6H_5Pr_2)_2]_2(NH_2Me_2)_2$  and  $[V(OC_6H_5Pr_2)_2]_2(NH_2Me_2Ph)_2$ , 2755

Controlled synthesis and reversible oxidation of a thiolate-bridged macrocyclic dinickel(II) complex, 3031

Synthesis of heteronuclear compounds by use of  $[Ti(\eta^3-C_5H_4PPh_2)_2(SR)_2]$  ( $R = Et$  or  $Ph$ ) as metalloligands. Crystal structures of  $[(Mo(CO)_4)_2(\mu-(Ph_2PC_2H_4)_2Ti(SPh)_2)]$  and  $[(OC_6H_5)_2Mo(\mu-Ph_2PC_2H_4)_2Ti(\mu-SPh)_2Pt(C_6F_5)_2]$ , 3201

Dimolybdenum complexes with sulfide and thiolate ligands as precursors to mixed-metal clusters: crystal structure of  $[Mo_2Ru_2(\mu_3-S)_2(\mu-SR)_2(CO)_4(\eta-C_5H_5)_2]$  (1996, 2403), 3341

Electron-transfer salts derived from *N,N*-dicyano-*p*-benzoquinone diimines and the novel dinuclear organometallic donor  $[Fe_2(\eta-C_5Me_2)_2(\mu-SEt)_2]CO_2$ , 3533

Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on  $[Cl_2FeS_VS_2FeCl_2]^{3-}$ , 3667

Redox behaviour of 4Fe-4S ferredoxin model arenethiolate complexes involving specific NH  $\cdots$  S hydrogen bonds assisted by a neighbouring phenyl group, 3859

Synthesis and nuclear magnetic resonance studies of molybdenum and tungsten thiolate complexes, 4011

Synthesis and photophysics of dinuclear gold(I) thiolates of bis(diphenylphosphino)-alkyl- and -aryl-amines. Crystal structure of  $[Au_2(PPh_2PN(C_6H_5)_2PPPh_2)(SC_6H_4F_2)_2]$ , 4019

Synthesis and crystal structures of  $\eta^2$ -sulfenamido complexes of

**THIOLATE (contd)**

ruthenium and nickel, and of chromium imido and cobalt iminophosphorane complexes *via* sulfenamido rearrangement, 4063

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiolene d<sup>1</sup> and d<sup>0</sup> niobium complexes, 4093

Synthesis, properties and characterization of the trinuclear clusters [Co<sub>3</sub>(μ-SR)<sub>6</sub>(PEt<sub>3</sub>)<sub>3</sub>]X (R = Me or Et, X = BPh<sub>4</sub><sup>-</sup> or PF<sub>6</sub><sup>-</sup>), 4337

Mixed co-ordination numbers and geometries of gold(I) in a dinuclear complex of thioglycerol, 4511

**THIOLE**

Preparations and crystal structures of Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)<sub>2</sub>(C<sub>5</sub>S<sub>5</sub>) and [Q][Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)(C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>] (Q = NEt<sub>4</sub> or 1,4-dimethylpyridinium, C<sub>5</sub>S<sub>5</sub> = 4,5-disulfanyl-1,3-dithiole-2-thionate), 541

Isolation, structure and spectroscopic properties of [Re<sub>2</sub>(C<sub>5</sub>S<sub>5</sub>)<sub>5</sub>]<sup>2-</sup> complexes and electrical conductivities of their oxidized species, 1539

Synthesis, structure and characterization of mixed cyclopentadienyl-dithiolene metal complexes, [Co(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>][Ni(C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>]<sub>2</sub>MeCN and [Ni(η-C<sub>5</sub>H<sub>5</sub>)(C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>], 2261

**THIOMORPHOLINE**

Alane- and gallane-sulfur donor chemistry: synthesis of AlH<sub>2</sub>NMe(CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>S, {AlH<sub>2</sub>[μ-N(CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>S]<sub>2</sub>} and MH(SCH<sub>2</sub>CH<sub>2</sub>NEt<sub>2</sub>)<sub>2</sub> (M = Al or Ga), 829

**THIONE**

Synthesis and stereochemistry of cobalt(III) complexes containing purine-6-thione and related ligands, 305

Preparations and crystal structures of Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)(C<sub>5</sub>S<sub>5</sub>) and [Q][Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)(C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>] (Q = NEt<sub>4</sub> or 1,4-dimethylpyridinium, C<sub>5</sub>S<sub>5</sub> = 4,5-disulfanyl-1,3-dithiole-2-thionate), 541

Dinuclear thioether half-sandwich ruthenium(II) complexes of the types [{RuL'([9]aneS<sub>5</sub>)<sub>2</sub>}(μ-L)<sub>2</sub>]<sup>+</sup> (n = 1, L' = PPh<sub>3</sub>; n = 2, L' = MeCN), [{Ru([9]aneS<sub>5</sub>)<sub>2</sub>}(μ-L)<sub>2</sub>]<sup>2+</sup> and [{Ru([9]aneS<sub>5</sub>)<sub>2</sub>}(μ-L)<sub>2</sub>]<sup>+</sup> with heterocyclic thioamides L ([9]aneS<sub>5</sub> = 1,4,7-trithiacyclononane), 989

Isolation, structure and spectroscopic properties of [Re<sub>2</sub>(C<sub>5</sub>S<sub>5</sub>)<sub>5</sub>]<sup>2-</sup> complexes and electrical conductivities of their oxidized species, 1539

Electrochemical synthesis and crystal structure of silver(I) complexes with some heterocyclic thiones, 2047

Synthesis, structure and characterization of mixed cyclopentadienyl-dithiolene metal complexes, [Co(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>][Ni(η-C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>]<sub>2</sub>MeCN and [Ni(η-C<sub>5</sub>H<sub>5</sub>)(C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>], 2261

Important role of CH-π interaction in linkage isomers of bis(2,2'-bipyridine)ruthenium(II) complexes with pyrimidine-2-thione and related ligands, 2851

Evaluation of thermodynamic parameters for highly correlated chemical systems: a spectrophotometric study of the 1:1 and 2:1 equilibria between I<sub>2</sub> and 1,1'-methylenebis(3-methyl-4-imidazoline-2-thione) (mbit) and 1,1'-ethylenebis(3-methyl-4-imidazoline-2-thione) (ebit). Crystal and molecular structures of mbit-2I<sub>2</sub> and ebit-2I<sub>2</sub>, 3583

Role of bifunctional N/S bridging in the association of metals; syntheses and structures of heterobimetallic [-(Ph<sub>3</sub>P)<sub>2</sub>CuL<sub>2</sub>Li(thf)]-thf and tetratomic [(CuL(PPh<sub>3</sub>)<sub>4</sub>](L = 1,3-benzoxazoline-2-thionate, thf = tetrahydrofuran) 3793

Magnetic properties and fluxional behaviour of heteroleptic cyclopentadienyl-dithiolene d<sup>1</sup> and d<sup>0</sup> niobium complexes, 4093

**THIOPHENE**

Hydrogenation and hydrogenolysis of thiophenic molecules catalysed by soluble metal complexes, 801

Reactions of heterocyclic organotellurium compounds with triiron dodecacarbonyl: reactions of thiophenes revisited, 1545

Thiophene-linked azacryptand sites for dicopper and disilver; thiophene sulfur as an inert spacer?, 3021

**THIOPHOSPHINOYL**

Complexes of [Ph<sub>3</sub>P(O)NP(E)Ph<sub>2</sub>]<sup>-</sup> (E = S or Se): disparate ring conformations within a new palladacycle, 3659

**THIOPHOSPHORYL**

Synthesis and crystal structure of [Ni(Ph<sub>2</sub>PC(S)NPh<sub>2</sub>)<sub>2</sub>] and [Ni(Ph<sub>2</sub>P(Y)C(S)NPh<sub>2</sub>)<sub>2</sub>] (Y = S or Se), 2269

P-N/S/Se-containing metallacycles, 2893

Diphosphine derivatives of urea and thiourea, 3647

**THIOSEMICARBAZONE**

Copper(II) and cobalt(II) complexes of methyl 2-pyridyl ketone thiosemicarbazone (HL); single-crystal structure of [Cu(HL)L]<sub>2</sub>NCS, 3011

Synthesis and structural characterization of the new quadridentate N,S-compound di-2-pyridyl ketone thiosemicarbazone and its binuclear copper(II) complexes, 3485

**THIOSULFATE**

Electron transfer from thiosulfate to nickel(IV) oxime imine complexes in aqueous solution, 2645

**THIOURACILATE**

Deprotonation reactions of 2-thiouracil with [2-(pyridin-2-yl)-phenyl]mercury(II) acetate. Structural and spectroscopic effects, 1973

Important role of CH-π interaction in linkage isomers of bis(2,2'-bipyridine)ruthenium(II) complexes with pyrimidine-2-thione and related ligands, 2851

**THIOUREA**

Diphosphine derivatives of urea and thiourea, 3647

**THORIUM**

Covalency in metal complexes of 1,4-diazabutadiene (dab). A density functional investigation of the electronic structures of [M(dab)<sub>2</sub>] (M = Li, Ga or Co) and [Th(NH<sub>3</sub>)(NH<sub>2</sub>)<sub>3</sub>(dab)], 1583

**THYMINATE**

Dinuclear nucleobase-anion-bridged complexes of Pd<sup>II</sup> and Pt<sup>II</sup> with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409

**TIN**

Tin-carbon bond formation by simple addition of cyclic dienes to a bis(amino)stannylene: a mechanistic study, 161

The first crystal structures of mixed chalcogen derivatives

SnR<sub>2</sub>[OPPh<sub>3</sub>(SPPh<sub>2</sub>)N]<sub>3</sub> (R = Me or Ph), 391

Reactions of tin tetrachloride with diethyl glutarate. Crystal structures of [Sn<sub>2</sub>Cl<sub>2</sub>{μ-C<sub>6</sub>H<sub>4</sub>(CO<sub>2</sub>Et)<sub>2</sub>}]-2CH<sub>2</sub>Cl<sub>2</sub> and *cis*-[SnCl<sub>4</sub>(H<sub>2</sub>O)<sub>2</sub>]-C<sub>6</sub>H<sub>4</sub>(CO<sub>2</sub>Et)<sub>2</sub>, 439

Preparations and crystal structures of Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)(C<sub>5</sub>S<sub>5</sub>) and [Q][Sn(CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me)(C<sub>5</sub>S<sub>5</sub>)<sub>2</sub>] (Q = NEt<sub>4</sub> or 1,4-dimethylpyridinium, C<sub>5</sub>S<sub>5</sub> = 4,5-disulfanyl-1,3-dithiole-2-thionate), 541

New supramolecular architectures based on polyfunctional organotin tetrazoles: synthesis and characterisation of phenylene-bridged bis(organotin tetrazoles), 835

Organotin-functionalised poly(tetrazoles), including the supramolecular structure of 1,6-(2-Bu<sub>2</sub>SnN<sub>4</sub>C<sub>6</sub>)(CH<sub>2</sub>)<sub>6</sub>, 847

New ruthenium-tin clusters with bulky ligands. Crystal and molecular structures of [Ru<sub>2</sub>(CO)<sub>4</sub>(μ-SnR'<sub>2</sub>)<sub>2</sub>], [Ru<sub>3</sub>(CO)<sub>6</sub>(μ-SnR'<sub>2</sub>)<sub>2</sub>] and [Ru<sub>4</sub>(CO)<sub>8</sub>(μ-SnR'<sub>2</sub>)<sub>2</sub>] [R = CH(SiMe<sub>3</sub>)<sub>2</sub>, R' = C<sub>6</sub>H<sub>5</sub>Pr<sub>3</sub>, 2,4,6], 1133

Synthesis, characterisation, Mössbauer spectra, and structures of some trimuclear iron-tin clusters, 1145

Crystal and molecular structure of dimethyl(L-tryptophyl-L-alaninate)tin(IV)-methanol (1/1) and Mössbauer spectroscopy studies of lattice dynamics of diorganotin(IV) dipeptide complexes, 1195

Tris(triorganostannyltetrazoles): synthesis and supramolecular structures, 1857

Co-ordination chemistry of tridentate phosphinothiolates; syntheses and structures of [Li<sub>4</sub>(PhP(C<sub>6</sub>H<sub>5</sub>-2-SiMe<sub>3</sub>-3)<sub>2</sub>)<sub>7</sub>(MeOCH<sub>2</sub>CH<sub>2</sub>OMe)<sub>2</sub>]<sub>n</sub>, [Sn<sub>2</sub>(PhP(C<sub>6</sub>H<sub>5</sub>-2-SiMe<sub>3</sub>-3)<sub>2</sub>)<sub>2</sub>]<sub>n</sub> and [NHEt<sub>3</sub>][Sm(PhP(C<sub>6</sub>H<sub>5</sub>-2-R-3)<sub>2</sub>)(py)]<sub>n</sub>·2Py (R = H or SiMe<sub>3</sub>, py = C<sub>6</sub>H<sub>5</sub>N), 1941

Synthesis and spectroscopic characterization of a series of substituted cyclopentadienyl Group 4 fluorides; crystal structure of the acetylacetone complex [(acac)<sub>2</sub>(η-C<sub>5</sub>Me<sub>5</sub>)Zr(μ-F)-SnMe<sub>2</sub>Cl], 1983

Structural chemistry of triorganotin fluorides. The crystal structure of tricyclohexyltin fluoride revisited, 2123

Trichloro-, mono-, di- and tri-organo-tin(IV) derivatives of hydrotridris(4-methylpyrazol-1-yl)borates, 2475

Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on M<sub>2</sub>(OPr)<sub>6</sub><sup>-</sup> (M = Sn, Zr or Ti) anions: crystal and molecular structures of [CdI{Sn<sub>2</sub>(OPr)<sub>6</sub>}<sub>2</sub>]<sub>n</sub> and [SmI<sub>2</sub>(Zr<sub>2</sub>(OPr)<sub>6</sub>)<sub>2</sub>]<sub>n</sub>, 2485

Alcohol-alkoxide exchange between Sn(OBu')<sub>4</sub> and HOBu' in co-ordinating and non-co-ordinating solvents, 2659

Dilithium diamides [Li(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>]<sub>2</sub>CH<sub>2</sub>H<sub>5</sub>(NR)<sub>2</sub>]<sub>n</sub> (R = SiMe<sub>3</sub> or CH<sub>2</sub>Bu') derived from R-, S-, or R,S-2,2'-diamino-1,1'-binaphthyl derivatives, 3595

Thermodynamic α-CH acidities of amino acid fragments in five-coordinate bicycloazastannoxides in Me<sub>2</sub>SO, 3889

Preparation of heterometallic single cubes [W<sub>2</sub>MS<sub>2</sub>(H<sub>2</sub>O)<sub>12</sub>]<sup>n+</sup> (M = In, Ge or Sn) and the first corner-shared double cubes [W<sub>6</sub>SnS<sub>6</sub>(H<sub>2</sub>O)<sub>18</sub>]<sup>n+</sup> and [W<sub>3</sub>Mo<sub>3</sub>SnS<sub>6</sub>(H<sub>2</sub>O)<sub>18</sub>]<sup>n+</sup> as derivatives of [W<sub>3</sub>S<sub>6</sub>(H<sub>2</sub>O)<sub>14</sub>]<sup>n+</sup>, 4089

Mixed iron-silicon-tin complexes stabilized by a phosphinoenolate bridging ligand. Crystal structure of [(OC)<sub>3</sub>(MeO)<sub>3</sub>Si-Fe{μ-Ph<sub>2</sub>P=CH(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>SnBu'}]<sub>n</sub>, 4365

Synthesis, solution and magic angle spinning tin-119 nuclear magnetic resonance studies and crystal structures of dithioether complexes of tin(IV) halides, 4471

**TIN-119**

Alcohol-alkoxide exchange between Sn(OBu')<sub>4</sub> and HOBu' in co-ordinating and non-co-ordinating solvents, 2659

Synthesis, solution and magic angle spinning tin-119 nuclear magnetic resonance studies and crystal structures of dithioether complexes of tin(IV) halides, 4471

**TITANIUM**

Triodal amido-titanium and -zirconium complexes containing a trisilylsilane-derived ligand framework, 125

Group 4 metal alkoxide complexes as catalysts for olefin polymerization, 219

**TITANIUM (contd)**

Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255

First-row transition metal complexes of corroles: synthesis and characterization of oxotitanium(IV) and oxovanadium(II) complexes of  $\beta$ -alkylcorroles (1995, 3617), 553

Polyoxotitanates join the Keggin family: synthesis, structure and reactivity of  $[Ti_{10}O_{20}H][OBu]_7$ , 691

Synthesis and characterisation of quinonide bridged dinuclear complexes of titanium and zirconium, 913

Formation of ring-expanded products from certain combinations of tetraphenylsiloxanediolates  $[(Ph_3SiOM')_2O]$  ( $M' = Li$  or  $Na$ ) and Group 4 metal chlorides  $MC_4$ , 1449

Metal complexes of chiral phosphorylalkoxides: crystal structure of dichlorobis(1,5)-2-(diphenylphosphoryl)-1-methylethanolate]-titanium(IV), 1637

Synthesis and spectroscopic characterization of a series of substituted cyclopentadienyl Group 4 fluorides; crystal structure of the acetylacetato complex  $[(acac)_2(\eta^5-C_5Me_5)Zr(\mu-F)-SnMe_3Cl]$ , 1983

Homoleptic hydroxylamides of titanium, zirconium and hafnium, 2089

Synthesis of phosphate-phenylphosphonates of titanium(IV) and their *n*-butylamine intercalates, 2285

Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on  $M_2(OPr)^-$  ( $M = Sn, Zr$  or  $Ti$ ) anions: crystal and molecular structures of  $[Cd\{Sn_2(OPr)^-\}]$  and  $[(Sn\{Zr_2(OPr)^-\})_2]$ , 2485

Synthesis and characterisation of  $(\eta^5\text{-cyclopentadienyl})(\eta^5\text{-ring})\text{titanium alkyl}$  (ring = indenyl or  $C_9H_7\text{Bu}^+$ ) complexes. Crystal and molecular structure of racemic  $[Ti(\eta^5-C_9H_7)(\eta^5-C_9H_7)(CH_2SiMe_3)Cl]$ , 2843

Synthesis of heteronuclear compounds by use of  $[Ti(\eta^5-C_9H_7PPPh_2)_2(SR)_2]$  ( $R = Et$  or  $Ph$ ) as metalloligands. Crystal structures of  $[(Mo(CO)_4)_2(\mu\text{-}(Ph_2PC_6H_4)_2Ti(SPh_2)_2)]$  and  $[(OC_4Mo(\mu\text{-}Ph_2PC_6H_4)_2Ti(\mu\text{-}SPh)_2)Pt(C_6F_5)_2]$ , 3201

**TRANSACTINIDE**

Evolution of the modern periodic table, 3899

**TRANSITION METAL**

Selectivity design using interligand contact: solvent extraction and structures of first-series-transition metal-bis(pyrazol-1-yl)borate complexes, 195

Tuning of the electrochemical recognition of substrates as a function of the proton concentration in solution using pH-responsive redox-active receptor molecules, 343

Cyclopentadienyl metal teflate ( $OTeF_6$ ) complexes, 509

Ligand-stabilized metal clusters and colloids: properties and applications, 589

What can calculations employing empirical potentials teach us about bare transition-metal clusters?, 611

Multinuclear solid-state nuclear magnetic resonance studies on transition-metal clusters containing hydrides, 625

Preparation, characterisation and properties of Groups VIII and IB metal nanoparticles, 673

Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametalate derivatives, 681

Gas-phase metal sulfide cluster anions, 709

Mercury-oxosmium carbonyl clusters resulting from facile  $Hg-C$  bond cleavage: reactions of  $[Os_3H_2(CO)_10]$  with  $[Hg(C=CPh)_2]$  and  $[RHg=CChgR]$  ( $R = Ph, Me$  or  $Et$ ), 899

2-(Diphenylphosphinoyl)propanoate complexes: crystal structure of tris[2-(diphenylphosphinoyl)propanoato]vanadium(IV), 1087

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni, 1093

Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of  $[TiClL]$ ,  $[FeL_2(O_2SCF_3)_2]$  and  $[Mo(CO)_4L]$  ( $L = PhCH_2P(CH_2CH_2OEt)_2$ ), 1105

Metal complexes of a chiral quadridentate Schiff base, 1229

Late transition-metal complexes with the heterofunctional phosphine  $Ph_2PNHP(O)Ph_2$ , 1283

$\eta^2\text{-Sulfenamido}$  and  $\text{-selenamido}$  complexes of titanium, zirconium, molybdenum and tungsten, 1309

Some transition-metal complexes derived from silylated 1,3-dynes, 1551

Co-ordination chemistry of 1,4-bis(*o*-aminobenzyl)-1,4-diazacyclohexane ( $L$ ) with nickel(II), copper(II) and palladium(II), 1659

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles, 1753

Prediction of crystal structures, 2077

Transition-metal complexes of 4'-*(4-anilino)-2,2':6',2"-terpyridine* (and derivatives): versatile building blocks for construction of metallooligomers and macromolecules, 2185

Synthesis, spectra and crystal structures of complexes of ambidentate  $C_6H_5C(O)C(NO)CN^-$ , 2351

Homo- and hetero-dinuclear metal complexes of bridging ligands containing phenol and azole moieties. Structure, spectroscopy, electrochemistry and magnetochemistry, 2371

Arene cluster compounds, 2395

2,2':6',2":6",2":Quaterpyridine (qtpy): a versatile ligand in metallosupramolecular chemistry; crystal and molecular structures of  $[Ni(qtpy)(OH_2)_2][BF_4]_2$ ,  $[Pd(qtpy)][PF_6]_2$ ,  $[Cu_2(qtpy)_2][PF_6]_2$  and  $[Ag_2(qtpy)_2][BF_4]_2$ , 2423

Complexes of potentially tri- and tetra-dentate phosphinothiol ligands with Mo, W, Re, Fe, Ru, Os, Rh, Ir and Ni (1996, 1093), 2585

Complexing properties of phosphinic analogues of glycine, 2685

P-N-S/Se-containing metallacycles, 2893

Highly branched ferrocene-functionalised polyyazacycloalkanes as electroactive receptors for transition-metal ions, 2923

Applications of extended X-ray absorption fine structure spectroscopy to the study of polyoxometalates, 2951

Structural studies of polyoxometalate-anion-pillared layered double hydroxides, 2963

Complexes of electropositive metals with a hemilabile ether phosphine. Crystal structures of  $[TiCl_4L]$ ,  $[FeL_2(O_2SCF_3)_2]$  and  $[Mo(CO)_4L]$  ( $L = PhCH_2P(CH_2CH_2OEt)_2$ ) (1995, 1105), 3163

Protonation and metal-ion complexation in aqueous solution by pyridine-containing hexaaza macrocycles (1995, 1753), 3163

Synthesis, structure and spectroscopic studies on hydroxo-bridged heterotrinuclear complexes of cobalt(III) with ethane-1,2-diamine and ammonia as terminal ligands, 3179

An equilibrium study on bivalent metal complexes with 1,5,9,13,17,21-hexaazacyclotetrasome ([24]aneN<sub>6</sub>) in aqueous solution, 3727

Agostic interactions in organometallic compounds. A Cambridge Structural Database study, 3925

Syntheses, characterization and structural chemistry of biladien-10-one and -*bc*-5-one metal complexes with 4N or (3N + O) coordination, 3937

Investigation of the properties of tris(2-cyanoethyl)phosphine by electrospray and Fourier transform ion cyclotron resonance mass spectrometries, 4109

Molecules bearing a redox-active spacer. Synthesis and coordination behaviour of 1,1'-bis(5-methyl-2,5-diazaheptyl)ferrocene, 4121

A convenient high yield synthesis of 2,2':6',2":6",2":6",2":sexipyridine and helical transition-metal complexes of substituted sexipyridines, 4207

First-row transition-metal complexes of mixed 'pendant-arm' derivatives of 1,4,7-triazacyclonanone containing phenolate and carboxylate functional groups, 4409

An electrospray mass spectrometry study of some metal-ion cage complexes, 4417

(*R*)- and (*S*)-Diphenylphosphinoyl-2'-hydroxy-1,1'-binaphthalene: versatile chiral bidentate ligands, 4449

**TRIAZENIDE**

Synthesis of 1,3-diaryltriazenido triruthenium and triosmium clusters: crystal structures of  $[Ru_3(\mu-H)(CO)_{10}(\mu-C_6F_5NNNC_6F_5)]$  and  $[Os_3(CO)_10Cl(\eta^2-C_6F_5NNNC_6F_5)]$ , 1573

Triazenedi-bridged diruthenium complexes containing redox-active cyanomanganese ligands, 2511

Reactions of the linear triosmium cluster  $[Os_3H(CO)_11(\eta^2-C_6F_5NNNC_6F_5)]$  with  $[Os_3(CO)_{12-n}(NCMe)_n]$  ( $n = 1$  or 2): crystal structures of  $[Os_4(\mu-H)(CO)_{11}(\eta^2-C_6F_5NNNC_6F_5)]$  and  $[Os_5(\mu-H)(CO)_{11}(\eta^2-C_6F_5NNNC_6F_5)]$ , 4083

Crystal structure, magnetic properties and spectroscopic studies of bis[1,3-bis(pyrazol-3-yl)triazenido]dicopper(II) trihydrate: a dinuclear complex with an asymmetric double pyrazolate bridge, 4275

**TRIAZINE**

Synthesis, crystal structure and luminescence properties of a europium(III) complex with a new planar aromatic tridentate N<sub>3</sub> ligand, 1767

Synthesis, structure, spectra and redox interconversions in copper(II) complexes of 5,6-diphenyl-3-(2-pyridyl)-1,2,4-triazine, 2061

Synthesis and solution fluxionality of rhodium(I) carbonyl complexes of 2,4,6-tris(pyrazol-1-yl)-1,3,5-triazines ( $L$ ).  $[RhX(CO)_3L]$  ( $X = Cl, Br$  or I). Characterization of  $[RhX(CO)_3L]$  ( $X = Cl$  or  $Br$ ), 3371

**TRIKETONATE**

Syntheses of new copper(II) mixed-ligand complexes and their chromotropic properties in solution and in the solid state, 3251

**TRIMERISATION**

Mechanisms of alkyne trimerisation at molybdenum and tungsten centres leading to novel metallacycles: crystal and molecular structures of two isomeric forms of  $[Mo_3(C(CF_3)_2(C(CF_3)_2C(CF_3)_2C(CO_2Me)C(CO_2Me)SPr)]$  ( $\eta^5-C_5H_5$ ), 999

**TRIPHOSPHINE**

Synthesis of heteropolymeric complexes with 1,1,1-tris(diphenylphosphinomethyl)ethane. Crystal structure of  $[(OC_4Mo\{(Ph_2PCH_2)_2CMe(CH_2PPh_2)\}AuCl]$ , 3603

Preparation and characterization of rhodium(III) complexes containing 1,1,1-tris(dimethylphosphinomethyl)ethane (tdmme), 3605

**TRIPHOSPHINE (contd)**

Structures of  $[\text{RhX}_3(\text{dmme})]$  ( $\text{X} = \text{Cl}, \text{Br}$  or  $\text{I}$ ),  $[\text{Rh}(\text{NH}_3)_3(\text{dmme})]^{3+}$  and  $[\text{Rh}(\text{dmme})_2(\mu-\text{X})_3]^{3+}$  ( $\text{X} = \text{Cl}$  or  $\text{OH}$ ) in the solid state and in solution, 3779  
 Multimetallic complexes of molybdenum(II) and tungsten(II) derived from  $[\text{WI}_2(\text{CO})\{\text{PhP}(\text{CH}_2\text{CH}_2\text{PPh}_2)_2\text{P}, \text{P}'\}(\eta^2\text{-RC}_2\text{R})]$  ( $\text{R} = \text{Me}$  or  $\text{Ph}$ ). Crystal structures of  $[\text{WI}_2(\text{CO})\{\text{PhP}(\text{CH}_2\text{CH}_2\text{PPh}_2)_2\text{P}, \text{P}'\}(\eta^2\text{-MeC}_2\text{R})]$  ( $\text{R} = \text{Me}$  or  $\text{Ph}$ ), 3995

**TRIPODAL LIGAND**

Tripodal amido-titanium and -zirconium complexes containing a triisilylsilane-derived ligand framework, 125  
 Structure, characterisation and dynamics of copper(I) complexes of 2,6-bis(3,5-dimethylpyrazol-1-ylmethyl)pyridine, 371  
 Some Schiff base complexes of lead(II), 1509  
 Structural, spectroscopic and angular-overlap studies of tripodal pyridine ligands with nickel(II) and zinc(II), 1845  
 Formation of axial phenolate-metal bonds in square-pyramidal complexes, 2233  
 Zinc(II) complexes of tripodal ligands providing phenolate and pyridine donors: formation, structure and hydrolytic activity, 2857  
 Preparation and characterization of rhodium(III) complexes containing 1,1,1-tris(dimethylphosphinomethyl)ethane (dmme). Structures of  $[\text{RhX}_3(\text{dmme})]$  ( $\text{X} = \text{Cl}, \text{Br}$  or  $\text{I}$ ),  $[\text{Rh}(\text{NH}_3)_3(\text{dmme})]^{3+}$  and  $[\text{Rh}(\text{dmme})_2(\mu-\text{X})_3]^{3+}$  ( $\text{X} = \text{Cl}$  or  $\text{OH}$ ) in the solid state and in solution, 3779  
 Solution studies of copper(II) complexes as models for the active site in galactose oxidase, 4331  
 Chemical origin of high activity in oxygenation of cyclohexane by  $\text{H}_2\text{O}_2$  catalysed by dinuclear iron(III) complexes with amide-containing ligands, 4479

**TRITHIANE**

Face versus vertex co-ordination of tridentate crown thioethers to trinuclear cobalt clusters, 1875

**TUNGSTEN**

Alkoxide hydrolysis as a route to early transition-metal polyoxometalates: synthesis and crystal structures of heteronuclear hexametalate derivatives, 681  
 Mechanisms of alkyne trimerisation at molybdenum and tungsten centres leading to novel metallacycles: crystal and molecular structures of two isomeric forms of  $[\text{Mo}(\text{C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{C}(\text{CO}_2\text{Me})\text{C}(\text{CO}_2\text{Me})(\text{SPr})] \cdot (\eta^2\text{-C}_2\text{H}_5)]$ , 999  
 Synthesis, structure and properties of new iron-molybdenum and -tungsten fulvalene-bridged heterobimetallic complexes, 1323  
 Structural characterization of the brown six-electron-reduced form of dodecatungstate,  $\text{K}_5[\text{BW}_{12}\text{O}_{34}(\text{H}_2\text{O})_3] \cdot 13.5\text{H}_2\text{O}$ , 1619  
 Ditungsten hexalkoxides: templates for organometallic chemistry and catalysis, 1781  
 The crystal structures of  $[\text{NMe}_4][\{\text{Me}_2\text{AsO}_2\}_2\{\text{MoO}(\text{O}_2)_2\}_2]$ ,  $[\text{NMe}_4][\{\text{Ph}_2\text{PO}\}_2\{\text{MoO}(\text{O}_2)_2\}_2]$ ,  $[\text{NBu}_4][\{\text{Ph}_2\text{PO}\}_2\{\text{WO}(\text{O}_2)_2\}_2]$  and  $[\text{NH}_3][\{\text{Ph}_2\text{PO}\}_2\{\text{MoO}(\text{O}_2)_2(\text{H}_2\text{O})\}]$  and their use as catalytic oxidants, 2039  
 Stabilization of high oxidation states in transition metals. An electrochemical and computational study of structurally comparable molybdenum and tungsten complexes, 2067  
 Synthesis and spectroscopic characterization of new mixed-metal, mixed-chalcogenide clusters  $[\text{Fe}_2\text{W}(\text{CO})_{10}(\mu_2\text{-Se})(\mu_3\text{-E})]$  ( $\text{E} = \text{Te}$  or  $\text{S}$ ). Structures of  $[\text{Fe}_2\text{M}(\text{CO})_{10}(\mu_2\text{-Se})(\mu_3\text{-E})]$  ( $\text{M} = \text{W}, \text{E} = \text{Se}$  or  $\text{Te}$ ;  $\text{M} = \text{Mo}$ ,  $\text{E} = \text{Se}$ ), 2173  
 Crystal structures of  $[\text{NEt}_3\text{H}]_3[\text{XCo}^{\text{III}}\text{W}_{11}\text{O}_{39}] \cdot 3\text{H}_2\text{O}$  ( $\text{X} = \text{P}$  or  $\text{As}$ ), 2537

Aqueous tungstovanadate equilibria, 2705  
 New synthetic route to  $\text{WSF}_4$  and its solution-phase structure as determined by tungsten L(III)-edge extended X-ray absorption fine structure studies, 2975  
 Codimerisation of CO and a 1,3-diynyl-metal complex on an Ru<sub>3</sub> cluster, 3151  
 Synthesis of heteropolymeric complexes with 1,1,1-tris(diphenylphosphinomethyl)ethane. Crystal structure of  $[(\text{OC})_2\text{Mo}(\{\text{Ph}_2\text{PCH}_2\})_2\text{CMe}(\text{CH}_2\text{PPh}_2)_2]\text{AuCl}$ , 3603  
 $\eta^1 \longrightarrow \eta^3$  Hapticity interconversion in cycloheptatrienyl complexes of molybdenum and tungsten. Crystal structures of  $[\text{Mo}(\text{NCS})(\text{CO})_2\text{C}_{10}\text{H}_8\text{N}_2](\eta^3\text{-C}_7\text{H}_7)$  and  $[\text{MoCl}(\text{CO})_2\{\text{Ph}_2\text{CH}_2\text{CH}_2\text{PPh}_2\}(\eta^3\text{-C}_7\text{H}_4\text{C}_6\text{H}_4\text{F}-4)]$ , 3629  
 Kinetics and mechanism of ligand substitution in  $[\text{Cr}(\pi\text{-ligand})(\text{CO})_3]$  complexes (ligand = naphthalene, pyrene, thiophene, 2,6-dimethylpyridine or cycloheptatriene) and of *fac*/*mer* isomerization in  $[\text{M}(\text{CO})_3\text{L}_2]$  ( $\text{M} = \text{Cr}, \text{Mo}$  or  $\text{W}$ ;  $\text{L}$  = phosphite, phosphine or isocyanide), 3959  
 Multimetallic complexes of molybdenum(II) and tungsten(II) derived from  $[\text{WI}_2(\text{CO})\{\text{PhP}(\text{CH}_2\text{CH}_2\text{PPh}_2)_2\text{P}, \text{P}'\}(\eta^2\text{-RC}_2\text{R})]$  ( $\text{R} = \text{Me}$  or  $\text{Ph}$ ). Crystal structures of  $[\text{WI}_2(\text{CO})\{\text{PhP}(\text{CH}_2\text{CH}_2\text{PPh}_2)_2\text{P}, \text{P}'\}(\eta^2\text{-MeC}_2\text{R})]$  ( $\text{R} = \text{Me}$  or  $\text{Ph}$ ), 3995  
 1,4,7-Triithiacyclonane ([9]aneS<sub>3</sub>) and 2,5,8-trithia[9]orthocyclophane complexes of molybdenum(II) and tungsten(II): crystal structures of  $[\text{WI}(\text{CO})_2([9]\text{aneS}_3)][\text{BPh}_4]$  and  $[\text{WI}_2(\text{CO})_2(\text{NCMe})(\text{PPh}_3)]$ , 4003

Synthesis and nuclear magnetic resonance studies of molybdenum and tungsten thiolate complexes, 4011

Preparation of heterometallic single cubes  $[\text{W}_3\text{MS}(\text{H}_2\text{O})_{12}]^{n+}$  ( $\text{M} = \text{In}, \text{Ge}$  or  $\text{Sn}$ ) and the first corner-shared double cubes  $[\text{W}_6\text{SnS}(\text{H}_2\text{O})_8]^{n+}$  and  $[\text{W}_3\text{Mo}_2\text{SnS}(\text{H}_2\text{O})_{16}]^{n+}$  as derivatives of  $[\text{W}_3\text{S}_4(\text{H}_2\text{O})_8]^{n+}$ , 4089

Syntheses and electrochemistry of bimetallic complexes containing cyclohexanediolate or cyclopentanediolate bridges, 4401

Density-functional study of the ground-and excited-spin states of  $[\text{M}_2\text{Cl}_6]^{3-}$  ( $\text{M} = \text{Mo}$  or  $\text{W}$ ) face-shared dimers: consequences for structural variation in  $\text{A}_3\text{M}_2\text{Cl}_6$  complexes, 4485

**TUNGSTEN-183**

Aqueous tungstovanadate equilibria, 2705

**URACILATE**

Binuclear nucleobase-anion-bridged complexes of  $\text{Pd}^{\text{II}}$  and  $\text{Pt}^{\text{II}}$  with 1-methylimidazol-2-yl pyridin-2-yl ketone: synthesis, crystal structure and solution behaviour, 2409

**URANIUM**

Monocyclooctatetraene uranium amide compounds in the +4 and +5 oxidation states, 947

Synthesis and reactivity of hydrogen-rich uranium-rhenium compounds; an unsuspected detrimental effect of alkali-metal halide on chemical metathesis, 1487

Uranium(IV) bis(imido), imido and bis(acetylide) complexes: synthesis, molecular structure, solution dynamics and interconversion reactions, 2541

**UREA**

Binuclear palladium complexes incorporating amidato, carbamato and urea bridging groups, 2227

Activation of the N-H bond of ethyl carbamate and urea by ruthenium hydride complexes. Unexpected loss of alcohol or ammonia to yield isocyanato complexes, 3221

Diphosphine derivatives of urea and thiourea, 3647

**URETE**

Reactions of imido complexes of iridium, rhodium and ruthenium, 3771

**VANADIUM**

Oxovanadium(IV) complexes of ligands containing phosphonic acid moieties, 87

Structure, characterization and photoreactivity of monomeric dioxovanadium(V) Schiff-base complexes of trigonal-bipyramidal geometry, 93

Chemistry of oxovanadium(V) alkoxides: synthesis and structure of mononuclear complexes incorporating ethane-1,2-diol, 99

Structural characterization of spherical octadecavanadates encapsulating  $\text{Cl}^-$  and  $\text{H}_2\text{O}$ , 283

First-row transition-metal complexes of corroles: synthesis and characterization of oxotitaniun(IV) and oxovanadium(II) complexes of  $\beta$ -alkylcorroles (1995, 3617), 553

Synthesis, magnetism, electrochemistry and reactivity of dinuclear vanadium(III) complexes of a macrocyclic tetraimine Schiff base, 1223

Alkali-metal vanadium sulfate  $\beta$  alums,  $\text{MV}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$  ( $\text{M} = \text{K}$ ,  $\text{Rb}$  or  $\text{Cs}$ ): structural anomalies related to unsymmetrical occupancy of the  $t_{1g}$  ( $\text{O}_6$ ) orbitals, 1481

Oxovanadium(IV) complexes of ligands containing phosphonic acid moieties (1996, 87), 1779

Crystal and molecular structure of  $[\text{V}_2\text{O}_5(\text{sal}-\text{l-val})_2(\text{H}_2\text{O})]$  (sal-l-val = *N*-salicylidene-l-valinate) and spectroscopic properties of related complexes, 1989

An unusual anionic  $\text{oxo}-(\mu\text{-oxo})$ -vanadium(V) network interlinked by cationic sodium chains, 2111

Local structures of the amorphous chromium sulfide,  $\text{CrS}_3$ , and selenide,  $\text{CrSe}_3$ , from X-ray absorption studies, 2245

Aqueous tungstovanadate equilibria, 2705

Reactions of substituted hydrazines with vanadium(III) compounds: crystal structures of  $[\text{NH}_2\text{Me}_2]_2[(\text{VCl}_3)_2(\mu\text{-NNMe}_2)_2]$ ,  $[\text{VO}(\text{C}_6\text{H}_5\text{Pr}_2)_2\text{Cl}_2(\text{NH}_2\text{NMe}_2)_2]$  and  $[\text{V}(\text{OC}_6\text{H}_5\text{Pr}_2)_2\text{Cl}_2(\text{NH}_2\text{NMePh})_2]$ , 2755

Vanadium chloride and chloride oxide complexes in an ambient-temperature ionic liquid. The first use of bis(trichloromethyl) carbonate as a substitute for phosgene in an inorganic system, 2787

Fourier-transform infrared study of short-lived highly reduced dithiolene complexes by potential-modulation spectroelectrochemical techniques, 2945

Synthesis, characterization and crystal structure of cyclic vanadate complexes with monosaccharide derivatives having a free adjacent diol system, 3257

Oxygen and vanadium exchange processes in linear vanadate oligomers, 3357

Characteristics of acid-catalysed substitution mechanisms and sites of protonation in iron-sulfur-based clusters, as revealed by studies on  $[\text{Cl}_2\text{Fe}_2\text{VS}_2\text{FeCl}_2]^{3-}$ , 3667

Structural characterization of possible intermediates in vanadium-catalysed sulfide oxidation, 3865

Aqueous vanadosilicates, 4189

Macrocyclic dimeric vanadium(IV) and heterodinuclear

**VANADIUM (contd)**

vanadium(IV)-nickel(II) complexes. Structure, magnetic, electronic and redox properties, 4233

**VANADIUM-51**

Aqueous tungstovanadate equilibria, 2705

Synthesis, characterization and crystal structure of cyclic vanadate complexes with monosaccharide derivatives having a free adjacent diol system, 3257

Oxygen and vanadum exchange processes in linear vanadate oligomers, 3357

Aqueous vanadosilicates, 4189

**VINYL**

Synthesis and reactivity of  $\eta^2(4e)$ -alkyne and  $\eta^2(3e)$ -vinyl complexes of rhodium, 415

Mercury-osmium carbonyl clusters resulting from facile Hg-C bond cleavage: reactions of  $[\text{Os}_3\text{H}_2(\text{CO})_{10}]$  with  $[\text{Hg}(\text{C}\equiv\text{CPh})_2]$  and  $[\text{RHg}(\text{C}\equiv\text{CHgR})]$  ( $\text{R} = \text{Ph, Me or Et}$ ), 899

Reactions of cyano-iron and -ruthenium compounds with *gem*-dicyanoperoxides. A new pathway to vinyl isocyanide complexes of iron and ruthenium, 3231

Reaction of the  $\eta^2(4e)$ -donor alkyne complexes  $[\text{Mo}\{\eta^2(4e)-\text{R}'\text{C}_2\text{R}^3\}(\text{POMe})_2(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R}' = \text{R}^2 = \text{Ph or Me; R}^1 = \text{Me, R}^2 = \text{Ph}$ ) with the Grignard reagents  $\text{MgR}^3(\text{X})$  ( $\text{R}^3 = \text{Me, Et, CH}_2\text{Ph, CH}_2\text{CH=CH}_2$  or  $\text{CH}_2\text{CH}_2$ ) and  $\text{CH}_2(\text{MgI})_2$ , 3387

Synthesis and characterisation of diphenylvinylphosphine-substituted osmium and ruthenium carbonyl clusters: crystal and molecular structures of  $[\text{Os}_3(\text{CO})_{10}(\text{Ph}_2\text{PCH=CH}_2)]$  and  $[\text{Os}_3(\mu\text{-H})(\text{CO})_9(\mu\text{-Ph}_2\text{PCH=CH}_2)]$ , 3825

**VINYLDENE**

Synthesis and reactivity of cationic vinylidene and allenylidene ruthenium(II) complexes containing the phosphinoether  $\text{Pr}_2\text{PCH}_2\text{CH}_2\text{OME}$  as chelating ligand, 2275

Synthesis of alkynyl, cyclic carbene and vinylidene osmium(II) complexes: first indenyl half-sandwich osmium(II) complexes, 2547

Cyclic oxacarbene complexes of the cycloheptatrienylmolybdenum auxiliary  $\text{MoL}_2(\eta\text{-C}_7\text{H}_7)$ ,  $\text{L} = \text{CO or P-donor ligand}$ : isolation and subsequent cyclisation of a hydroxyvinylidene intermediate, 3893

Ruthenium tris(pyrazolyl)borate complexes. Formation and characterization of acetone, dimethylformamide and vinylidene complexes containing N,N-donor co-ligands, 4071

**XAFS**

Is nickel dibromide bent in a nitrogen matrix? A combined simultaneous Fourier-transform infrared and X-ray absorption fine structure matrix isolation study, 249

X-Ray absorption fine structure study of the structural changes accompanying spin cross-over in the acetone solvates of  $[\text{Fe}(\text{dppe})_2\text{X}_2]$  [ $\text{dppe} = \text{cis-1,2-bis(diphenylphosphino)-ethylene}$ ;  $\text{X} = \text{Cl or Br}$ ], 1275

**X-RAY DIFFRACTION**

Studies on the thermal decomposition of basic lead(II) carbonate by Fourier-transform Raman spectroscopy, X-ray diffraction and thermal analysis, 3639

**X-RAY POWDER DIFFRACTION**

Polymorphism, structures and phase transformation of  $\text{K}_3[\text{SO}_4]_2\text{F}$ , 2497

*Ab initio* X-ray powder diffraction structural characterization of co-ordination compounds: polymeric  $[(\text{MX}_2(\text{bipy}))_n]$  complexes ( $\text{M} = \text{Ni or Cu; X} = \text{Cl or Br; bipy} = 4,4'$ -bipyridyl), 2739

Structural studies of polyoxometalate-anion-pillared layered double hydroxides, 2963

*Ab initio* structure solution of a novel aluminium methylphosphonate from laboratory X-ray powder diffraction data, 3159

**YLIDE**

Phenyl nickel complexes with a chelating P,N ligand. Structures of  $\text{Ph}_2\text{P}=\text{CHC}(\text{NPh})\text{Ph}$  and  $[\text{NiPh}(\text{Ph}_2\text{P}=\text{CHC}(\text{NPh})\text{Ph})-\langle\text{Ph}_2\text{P}=\text{CHC}(\text{NPh})\text{Ph}-\text{N}\rangle]$ , 3571

**ZEOLITE**

Dissolving alkali metals in zeolites: genesis of the perfect cluster crystal, 719

Intrazeolite large palladium clusters prepared by organometallic chemical vapour deposition, 765

A route to the dispersion of ultrafine cobalt particles on zeolite Na-X through salt occlusion and reduction, 775

**ZINC**

A halide-free route to Groups 12 and 13 organometallic and metallocorganic complexes, 133

A proton nuclear magnetic resonance study of the interaction of zinc(II) with the antitumour drug streptonigrin, 549

Methylzinc tetrahydroborate: physical and chemical properties and crystal structure at low temperature, 853

Kinetics of ternary complex formation with the (nitrilotriacetato)-zinc(II) complex: the effect of buffers and pH, 867

Structural, spectroscopic and angular-overlap studies of tripodal pyridine ligands with nickel(II) and zinc(II), 1845

Novel dithio- and diseleno-carbamates of zinc and cadmium as single-molecule precursors for low-pressure metal-organic chemical vapour deposition, 2491

Synthesis and co-ordination of 1,4,7,10-tetraazacyclododecanes disubstituted with imidazole and pyrazole, 2679

Synthesis and solution complexation behaviour of tetradeinate diamines with hard phosphinate donors, 2693

Chelating behaviour of methyl 2-pyridyl ketone carbono- and thiocarbono-hydrazone in copper(II) and zinc(II) complexes, 2699

Synthesis and characterization of zinc(II) oxydiacetate (oda) complexes. Crystal structures of  $[\text{Zn}(\text{oda})\cdot 0.3\text{H}_2\text{O}]$ ,  $[\text{Zn}(\text{oda})(\text{bipy})(\text{H}_2\text{O})\cdot 2.5\text{H}_2\text{O}$  and  $[\text{Zn}(\text{oda})(\text{phen})(\text{H}_2\text{O})\cdot 1.5\text{H}_2\text{O}$  ( $\text{bipy} = 2,2'$ -bipyridine,  $\text{phen} = 1,10$ -phenanthroline), 2747

Zinc(II) complexes of putative obligate tetrahedrally co-ordinating pro-ligands, 2835

Zinc(II) complexes of tripodal ligands providing phenolate and pyridine donors: formation, structure and hydrolytic activity, 2857

Controlled synthesis and reversible oxidation of a thiolate-bridged macrocyclic dinickel(II) complex, 3031

Complexation of lop-sided 16- and 17-membered tetraaza macrocycles containing fused dibenzofuran substituents with zinc(II) and cadmium(II), 3039

Carboxy ester hydrolysis catalysed by a dinuclear, hexaazamacrocyclic zinc(II) complex. A model for zinc(II) aminopeptidases, 3087

Reaction of  $\text{R}_3\text{AsI}_2$  ( $\text{R} = \text{Me or Et}$ ) with zinc metal powder to produce  $\text{ZnI}_2(\text{AsMe}_3)_2$  and  $[\text{ZnI}_2(\text{AsEt}_3)_2]$ , the first tertiary arsine complexes of zinc(II), 3309

*meso*-Substituted octabromoporphyrins: synthesis, spectroscopy, electrochemistry and electronic structure, 3429

Zinc(II) complexes of phosphonic acid analogues of glutamic acid, 3455

Model complexes for the carboxylate-histidine-metal triad systems in metalloenzymes. Synthesis, crystal structures and spectroscopic properties of  $[\text{M}(\text{Him})_2(\text{O}_2\text{CMe})_2]$  ( $\text{M} = \text{Zn}^{2+}$  or  $\text{Co}^{2+}$ ,  $\text{Him} = \text{imidazole}$ ), 3465

Syntheses and characterization of novel tri- and hexa-nuclear zinc complexes with biomimetic chelate ligands, 3731

Models of the active sites of zinc-containing enzymes: the structure of acetoato[hydrotris(3-*tert*-butyl-5-methylpyrazol-1-yl)borato]zinc(II), 4283

Crystal structures of nickel, copper and zinc naphthalocyaninates, 4303

**ZIRCONIUM**

Tripodal amido-titanium and -zirconium complexes containing a trisilylsilane-derived ligand framework, 125

Group 4 metal alkoxide complexes as catalysts for olefin polymerization, 219

Cationic Group 4 metallocene complexes and their role in polymerisation catalysis: the chemistry of well defined Ziegler catalysts, 255

Synthesis and characterisation of quinonide bridged dinuclear complexes of titanium and zirconium, 913

New mono- and bi-nuclear *ansa*-metallocenes of zirconium and hafnium as catalysts for the polymerisation of ethene and propene, 921

Unexpected reactions of pentafluorophenyl boron compounds with  $\eta$ -cyclopentadienyl(benzamidinato)zirconium derivatives, 939

Intercalation of 1,4,10,13-tetraoxa-7,16-diazacyclooctadecane by  $\alpha$ - and  $\gamma$ -zirconium phosphates, 1245

Synthesis and spectroscopic characterization of a series of substituted cyclopentadienyl Group 4 fluorides; crystal structure of the acetylacetone complex  $[(\text{acac})_2(\eta\text{-C}_5\text{Me}_5)\text{Zr}(\mu\text{-F})\text{SnMe}_2\text{Cl}]$ , 1983

Homoleptic hydroxylamides of titanium, zirconium and hafnium, 2089

Synthesis and characterisation of novel heterobimetallic halide isopropoxides based on  $\text{M}_2(\text{OPr})_6$  ( $\text{M} = \text{Sn, Zr or Ti}$ ) anions: crystal and molecular structures of  $[\text{CdI}(\text{Sn}_2(\text{OPr})_6)_2]$  and  $[(\text{Sn}[\text{Zr}_2(\text{OPr})_6])_2]$ , 2485

Derivatives of Group 4 metal amide chlorides and fluorides: synthesis, structure and characterization of novel dimethyl and fluoro-chloro complexes, 4143

Syntheses and crystal structures of phenyl(2-pyridyl)amido complexes of zirconium(IV), niobium(V) and tantalum(V), 4345

